

UNIVERSITÉ DU QUÉBEC À MONTRÉAL

LA TRANSMISSION DE LA PASSION :  
ÉTUDE DE L'IMPACT DES INDIVIDUS PASSIONNÉS SUR LES AUTRES

THÈSE  
PRÉSENTÉE  
COMME EXIGENCE PARTIELLE  
DU DOCTORAT EN PSYCHOLOGIE

PAR  
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FÉVRIER 2013

UNIVERSITÉ DU QUÉBEC À MONTRÉAL  
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## REMERCIEMENTS

Cette thèse n'aurait pu voir le jour sans la confiance, la patience et la générosité de mon directeur de recherche, Monsieur Robert. J. Vallerand, directeur du Laboratoire de Recherche sur le Comportement Social et professeur au Département de psychologie de l'Université du Québec à Montréal. La confiance qu'il m'a accordée tout au long de mes années d'études doctorales m'a permis d'élaborer un plan de thèse personnel et propre à mes aspirations. Je voudrais donc le remercier pour le temps et la patience qu'il m'a accordés tout au long de ces années. De plus, les conseils qu'il m'a offerts tout au long de ma période de rédaction m'ont grandement facilité la tâche et m'ont permis d'aboutir à la production de cette thèse.

Je désire également remercier les membres de mon jury de thèse, Dr. Nathalie Houltfort, professeure au département de psychologie de l'Université du Québec à Montréal, Dr. Julie Ménard, professeure au département de psychologie de l'Université du Québec à Montréal, et Dr. Frédéric Guay, professeur au département des fondements et pratiques en éducation de l'Université Laval. Leur collaboration fut précieuse et grandement appréciée.

J'exprime aussi ma plus grande reconnaissance aux anciens et aux nouveaux membres du Laboratoire de Recherche sur le Comportement Social pour leur soutien et leur amitié. Plus précisément, je remercie spécialement Anne-Sophie Gousse, Ariane St-Louis, Arielle Bonneville, Daniel Lalande, Frédérick Philippe, Geneviève Lavigne, Jacques Forest, Jérémie Verner-Filion, Jocelyn Bélanger, Julien Bureau, Laurence Crevier-Brault, Marc-André Lafrenière, Nicolas Lemyre et Noémie Carbonneau pour m'avoir aidé ou avoir été présents à un moment ou à un autre de mon cheminement doctoral.

Je désire également exprimer toute ma gratitude à mes parents, Michel et Diane, et ma sœur, Nathalie, qui m'ont continuellement soutenu et encouragé tout au long de ces années d'études doctorales, et notamment lors des périodes plus difficiles. Enfin, j'aimerais remercier ma copine Karel pour la générosité et la grande patience dont elle a fait preuve tout au long de mon cheminement doctoral. Je n'aurais pu imaginer meilleur soutien que celui qu'elle m'a offert.



## TABLE DES MATIÈRES

LIST OF FIGURES.....	viii
LIST OF TABLES.....	ix
RÉSUMÉ.....	x
INTRODUCTION.....	1
THE DUALISTIC MODEL OF PASSION.....	1
Research on Passion and Outcomes.....	3
ON THE DEVELOPMENT OF PASSION.....	6
ON THE TRANSMISSION OF PASSION.....	10
The Role of Autonomy Support in the Transmission of Passion.....	10
Social Learning Theory and Social Contagion: The Modeling Effects.....	13
THE ROLE OF POSITIVE EMOTIONS IN THE TRANSMISSION OF PASSION....	16
Mood Contagion.....	16
Enthusiasm.....	20
Excitement.....	23
PRESENTATION OF THE TWO ARTICLES.....	24
CHAPITRE I	
ARTICLE 1.....	28
RÉSUMÉ EN FRANÇAIS DE L'ARTICLE 1.....	30
ABSTRACT.....	33
THE ROLE OF AUTONOMY SUPPORT IN THE TRANSMISSION OF PASSION	
1.1 INTRODUCTION.....	34

1.1.1 The Dualistic Model of Passion.....	34
1.1.2 On the Development of Passion.....	38
1.2 THE PRESENT RESEARCH: THE PASSION TRANSMISSION MODEL.....	41
1.3 STUDY 1.....	42
1.3.1 Method.....	43
1.3.2 Results and Discussion.....	45
1.4 STUDY 2.....	47
1.4.1 Method.....	48
1.4.2 Results and Discussion.....	50
1.5 GENERAL DISCUSSION.....	52
TABLES	
1.6.1 Table 1.1.....	58
1.6.2 Table 1.2.....	59
FIGURES	
1.7.1 Figure 1.1.....	60
1.7.2 Figure 1.2.....	61
CHAPITRE II	
ARTICLE 2.....	63
RÉSUMÉ EN FRANÇAIS DE L'ARTICLE 2.....	64
ABSTRACT.....	67
ON THE TRANSMISSION OF PASSION: IDENTIFYING THE KEY MEDIATORS	
2.1 INTRODUCTION.....	68
2.1.1 The Dualistic Model of Passion.....	68
2.1.2 On the Development of Passion.....	71
2.1.3 The Role of Positive Emotions in the Transmission of Passion.....	74
2.2 THE PRESENT RESEARCH: ON THE TRANSMISSION OF PASSION.....	77
2.3 STUDY 1.....	79

2.3.1 Method.....	79
2.3.2 Results and Discussion.....	82
2.4 STUDY 2.....	84
2.4.1 Method.....	85
2.4.2 Results and Discussion.....	89
2.5 GENERAL DISCUSSION.....	94
TABLES	
2.6.1 Table 2.1.....	102
2.6.2 Table 2.2.....	103
2.7 FIGURE 2.1.....	105
CHAPITRE III	
GENERAL DISCUSSION.....	106
THEORETICAL IMPLICATIONS.....	106
3.1 On the Transmission of Passion.....	106
3.2 Autonomy Support and Control in the Transmission of Passion.....	109
3.3 Positive Emotions: The Role of Enthusiasm and Excitement.....	112
3.4 On the On-Going Development and Transmission of Passion.....	115
LIMITATIONS OF THE PRESENT RESEARCH.....	116
FUTURE RESEARCH.....	117
CONCLUSION.....	119
APPENDICE A	
ARTICLE 1, ÉTUDES 1 ET 2; ARTICLE 2 ÉTUDE 2:.....	120
PAGE COUVERTURE ET FORMULAIRE DE CONSENTEMENT AVERTI	
APPENDICE B	
ARTICLE 2, ÉTUDES 1:.....	123
PAGE COUVERTURE ET FORMULAIRE DE CONSENTEMENT AVERTI	

APPENDICE C	
ARTICLE 1, ÉTUDE 1: QUESTIONNAIRE.....	126
APPENDICE D	
ARTICLE 1, ÉTUDE 2: QUESTIONNAIRE DE L'ENTRAÎNEUR.....	133
APPENDICE E	
ARTICLE 1, ÉTUDE 2: QUESTIONNAIRE DE L'ATHLÈTE.....	138
APPENDICE F	
ARTICLE 2, ÉTUDE 1: QUESTIONNAIRE TEMPS 1.....	143
APPENDICE G	
ARTICLE 2, ÉTUDE 1: QUESTIONNAIRE TEMPS 2.....	148
APPENDICE H	
ARTICLE 2, ÉTUDE 2: MANIPULATION.....	154
APPENDICE I	
ARTICLE 2, ÉTUDE 2: QUESTIONNAIRE.....	157
REFERENCES.....	163

## LIST OF FIGURES

Figures	Page
1.1 Results of Study 1's path analysis.....	60
1.2 Results of Study 2's path analysis.....	61
2.1 Results of Study 1's path analysis.....	105

## LIST OF TABLES

Tableaux	Page
1.1 Means, Standard Deviations, and Correlations Involving all Variables of Study 1 ( $N = 125$ )	58
1.2 Means, Standard Deviations, Alpha Coefficients, and Correlations Involving all Variables of Study 2 ( $N = 103$ dyads)	59
2.1 Means, Standard Deviations, and Correlations Involving all Variables of Study 3 ( $N = 160$ )	102
2.2 Means and Standard Deviations Involving all Variables from Study 4 ( $N = 131$ )	103

## RÉSUMÉ

Le but de la présente thèse était de tester le Model de Transmission de la Passion (MTP) dans le cadre de quatre études empiriques. Plus spécifiquement, cette thèse vérifie les processus de transmission de la passion entre un adulte passionné (l'expert dans l'activité) et un novice en utilisant les comportements soutenant l'autonomie et ceux contrôlants perçus par le novice, ainsi que l'enthousiasme et l'excitation vécu par le novice durant l'activité.

L'introduction de cette thèse présente les différents modèles théoriques qui ont servi à la conception du modèle sur la transmission de la passion d'une personne à une autre. Plus précisément, ce dernier modèle utilise le Modèle Dualiste de la Passion de Vallerand et collègues (2003). Ce modèle propose deux types de passion : une passion harmonieuse et une passion obsessionnelle. La passion harmonieuse est le résultat d'une intériorisation autonome de l'activité dans l'identité d'une personne. Cette dernière s'engage donc librement dans son activité. La passion obsessionnelle de son côté est le résultat d'une intériorisation contrôlée de l'activité dans l'identité d'une personne. Cette dernière s'engage dans l'activité car certaines pressions internes ou externes forcent la personne à s'investir dans l'activité qu'elle aime. Plusieurs recherches sur la passion ont démontré que la passion harmonieuse est généralement associée à des conséquences positives, tandis que la passion obsessionnelle prédit des conséquences négatives (Vallerand, 2010).

Lafrenière et collègues (Lafrenière, Jowett, Vallerand, & Carbonneau, 2011) ont démontré qu'un entraîneur avec une passion harmonieuse est plus porté à utiliser des comportements soutenant l'autonomie, tandis qu'un entraîneur avec une passion obsessionnelle est plus porté à utiliser des comportements contrôlants avec l'athlète qu'il ou elle dirige. De plus, d'autres études ont démontré que le soutien à l'autonomie joue un rôle important dans le développement de la passion, et plus précisément pour le développement d'une passion harmonieuse (Mageau et al., 2009). De concert avec ces résultats, il est suggéré dans la présente thèse que les experts favorisant un soutien à l'autonomie lors de l'activité transmettent une passion harmonieuse chez les novices, tandis que les experts favorisant un environnement contrôlant durant l'activité transmettent une passion obsessionnelle chez les novices. Les résultats de Mageau et al., (2009) démontrent que le soutien à l'autonomie semble influencer le développement initial d'une passion. De plus, le soutien à l'autonomie semble aussi déterminer quel type de passion sera prédominant envers l'activité. En lien avec Vallerand (2010), l'introduction de la présente thèse démontre aussi que le développement d'une passion est un processus continu. Selon Vallerand (2010), les



deux types de passion sont intériorisées à différent degrés dans l'identité de l'individu. Donc, le type de passion prédominant est influencé par la présence ou l'absence de certains facteurs sociaux et personnels. Il est donc possible, selon Vallerand (2010), de renforcer un type de passion ou de modifier ce type de passion en rendant saillants certains facteurs sociaux.

De plus, en lien avec le phénomène de la contagion des émotions, la présente thèse suggère que les experts passionnés facilitent l'enthousiasme et l'excitation chez les novices et par conséquent, ces émotions vécues aident le processus de transmission d'une passion. Il est proposé que les novices qui vivent de l'enthousiasme durant l'activité développeront une passion harmonieuse, tandis que les novices qui vivent de l'excitation développeront une passion obsessionnelle. L'introduction de la thèse se termine par une brève présentation de deux articles scientifiques sur la transmission de la passion. Chaque article contient deux études.

En lien avec le modèle Dualiste de la Passion (Vallerand et al., 2003), l'article 1 présente les résultats de deux études empiriques. Le but du présent article était de tester le MTP. Dans les deux études, le modèle vérifie empiriquement la séquence suivante: « le type de passion de l'expert  $\Rightarrow$  le soutien à l'autonomie perçue  $\Rightarrow$  le type de passion du novice ». Ce modèle stipule que les experts passionnés influencent l'environnement dans lequel l'activité a lieu par le biais de leurs comportements soutenant l'autonomie. Ainsi, l'impact de ces adultes sur l'environnement lors de l'engagement dans l'activité facilitera la transmission d'un type de passion. Plus précisément, en lien avec Lafrenière et al. (2011), le modèle propose premièrement que les experts avec une passion harmonieuse utilisent davantage de comportements soutenant l'autonomie que les experts avec une passion obsessionnelle. Deuxièmement, en lien avec Mageau et al., (2009), le modèle stipule que le soutien à l'autonomie est essentiel dans le développement initial d'une passion envers une activité. De plus, le modèle postule que le soutien à l'autonomie est la variable la plus importante dans le développement d'une passion harmonieuse. Ce modèle a été testé dans l'Étude 1 en utilisant un devis rétrospectif dans lequel la personne se rappelait les comportements de l'expert qui l'avait initié à l'activité. Le but de la première étude était de tester le MTP avec des individus qui n'avaient pas de passion préexistante envers une activité. Les hypothèses de cette étude ont été testées à l'aide d'analyses par équations structurelles. Les résultats ont soutenu les hypothèses.

L'étude 2 du premier article avait trois objectifs. L'une des limites de l'étude 1 était que la passion et le soutien à l'autonomie de l'expert étaient rapportés à l'aide des souvenirs du novice. Avec un tel devis, il était impossible de mesurer l'impact réel de l'expert dans le processus de transmission de la passion. Donc, le premier objectif de l'étude 2 était de reproduire les résultats de l'étude 1 en demandant à une relation entraîneur-athlète de participer à l'étude. Le deuxième objectif était d'inclure l'influence des comportements contrôlants des entraîneurs envers leurs athlètes en

plus des comportements soutenant l'autonomie. Finalement, le dernier objectif de l'étude 2 était de tester le MTP avec des personnes qui avaient déjà une passion envers une activité afin de démontrer empiriquement le rôle du processus de transmission de la passion dans le développement continu de la passion. Spécifiquement, le modèle proposait que les entraîneurs avec une passion harmonieuse utiliseraient davantage de comportements soutenant l'autonomie, tandis que les entraîneurs avec une passion obsessionnelle utiliseraient davantage de comportements contrôlants. En lien avec Mageau et al., (2009), il était suggéré à nouveau que le soutien à l'autonomie perçu mènerait à la transmission d'une passion, peu importe le type de passion. De plus, le modèle stipulait que le soutien à l'autonomie faciliterait la transmission d'une passion harmonieuse. Il était suggéré que les entraîneurs avec une passion obsessionnelle utiliseraient plus de comportements contrôlants par le fait même ces comportements seraient perçus par les athlètes et mèneraient à la transmission d'une passion obsessionnelle. Les hypothèses de cette étude ont été testées à l'aide d'analyses par équations structurelles. Dans l'ensemble, les résultats se sont avérés cohérents avec nos hypothèses.

Le deuxième article inclut aussi deux études empiriques. L'objectif de l'étude 1 était de tester le MTP entre des enseignants en psychologie et des étudiants de première année au cégep, qui n'avaient pas encore développé de passion envers la psychologie, et ce en utilisant un devis longitudinal de trois mois. En lien avec les deux premières études du premier article, le MTP mesurait à nouveau l'influence que pouvait avoir un professeur passionné sur l'environnement lors de l'engagement dans l'activité. En plus de mesurer les comportements soutenant l'autonomie et contrôlants, le MTP examinait, dans le processus de transmission, le rôle médiateur de l'enthousiasme et de l'excitation vécus lors de l'activité. Comme dans le premier chapitre, il était suggéré que les enseignants avec une passion harmonieuse utiliseraient plus de comportements soutenant l'autonomie, tandis que les enseignants avec une passion obsessionnelle utiliseraient davantage de comportements contrôlants. De plus, en lien avec la littérature sur ce sujet (Frenzel et al., 2009; Patrick, et al., 2000), il était suggéré que les enseignants avec une passion harmonieuse augmenteraient le niveau d'enthousiasme et d'excitation des étudiants, tandis que les enseignants avec une passion obsessionnelle augmenteraient seulement le niveau d'excitation. Finalement, il était suggéré qu'un environnement comprenant un haut niveau de soutien à l'autonomie et d'enthousiasme faciliterait la transmission d'une passion harmonieuse, alors qu'un environnement comprenant un haut niveau de contrôle et d'excitation faciliterait la transmission d'une passion obsessionnelle. Les hypothèses de cette étude ont été testées à l'aide d'analyses par équations structurelles et les résultats ont soutenu les hypothèses.

Le premier objectif de l'étude 2 du deuxième article était de tester le MTP en utilisant un devis expérimental, tandis que le deuxième objectif était de mesurer le MTP avec des étudiants déjà passionnés envers la psychologie. Plus précisément, des

manipulations expérimentales ont été utilisées afin de créer trois conditions représentant un enseignant avec une passion harmonieuse, un autre avec une passion obsessionnelle et un enseignant non-passionné. Des étudiants en psychologie à l'université ont été assignés aléatoirement à l'une des trois conditions. Comme dans l'étude précédente, il était suggéré que la condition représentant un enseignant avec une passion harmonieuse faciliterait la transmission d'une passion harmonieuse par le biais de comportements soutenant l'autonomie et favorisant l'enthousiasme des étudiants, tandis que la condition représentant un enseignant avec une passion obsessionnelle faciliterait la transmission d'une passion obsessionnelle par le biais de comportements contrôlants et favorisant l'excitation des étudiants. De plus, il était suggéré que les trois conditions mèneraient à différentes conséquences de sorte que les participants dans les conditions harmonieuse et obsessionnelle expérimenteraient davantage de satisfaction dans l'activité et une plus grande intention de faire carrière en psychologie comparativement aux participants dans la condition non-passionnée. Les hypothèses de cette étude ont été testées à l'aide d'analyses de variance multivariées (MANOVA). Dans l'ensemble, les résultats se sont avérés cohérents avec nos hypothèses.

Le dernier chapitre présente une discussion générale, où les contributions scientifiques et pratiques du présent projet sont discutées. La première section porte sur les implications théoriques des études qui composent cette thèse, alors que la seconde aborde les différentes limites inhérentes aux études présentées. La troisième section propose des pistes des recherches futures tandis que la quatrième et dernière section présente une courte conclusion.

Mots clés: Passion obsessionnelle, Passion harmonieuse, Modèle Dualiste de la Passion, autonomie, contrôlant, Modèle de Transmission de la Passion.

## INTRODUCTION

In this introduction, we present the theoretical context for all the variables identified as important in the Passion Transmission Model (PTM) between two individuals. With this introduction, the reader will be able to follow the procedure that led us to identify the mediating factors necessary in the passion transmission process. First, we review the literature on the Dualistic Model of Passion. Then, in line with the studies on the development of a passion (Mageau et al., 2009; Vallerand, 2010), we also present the theoretical background of the variables at play in the development of a passion. More specifically, we discuss the role of autonomy support during activity engagement. Second, we introduce two key theories underlying the transmission processes, Social Learning Theory and Social Contagion Theory. Third, in line with mood contagion, it appears that enthusiasm and excitement can also play a role in the transmission process. Thus, we present a section on those two positive emotions and their potential role in the transmission of passion. Finally, we briefly introduce the two articles that compose the present thesis on the transmission of a passion from one individual to another.

### THE DUALISTIC MODEL OF PASSION

Recently, Vallerand and his colleagues (Vallerand, 2008; 2010; Vallerand et al., 2003; Vallerand & Houliort, 2003; Vallerand & Miquelon, 2007) have proposed a Dualistic Model of Passion, where passion is defined as “a strong inclination toward a self-defining activity that is important, liked (or even loved), and in which a significant amount of time and energy is invested” (Vallerand, 2008, p.1). For example, an individual who loves playing hockey, finds it important, and invests a lot of time and energy in it is said to have developed a passion toward hockey. In line



with Self-Determination Theory (SDT; Deci & Ryan, 1985, 1991, 2000), the Dualistic Model of Passion posits that people engage in different activities in order to satisfy their basic psychological needs for autonomy (a desire to feel a sense of personal initiative), competence (a desire to interact effectively with the environment), and relatedness (a desire to feel connected to significant others). In addition, an activity can help people develop a sense of identity. Vallerand et al. (2003) proposed that when a person values, likes, and engages in an activity on a regular basis, the representation of this activity becomes integrated in the person's identity, consequently leading to the development of a passion toward this activity. The activity has become so integrated into the person's identity that it represents one of its central features. For example, those who have a passion for playing basketball see themselves as "basketball players".

Furthermore, Vallerand and his colleagues (2003) proposed that depending on the way through which the passionate activity has been internalized into the person's identity, two distinct types of passion can arise. Obsessive passion results from a controlled internalization of the activity into the person's identity. When the passionate activity comes to mind, obsessively-passionate people feel like they have to engage in the activity due to the internal forces that control them. These individuals feel an urge to engage in the activity either because of intrapersonal and/or interpersonal pressures and contingencies are attached to the activity, such as social acceptance or self-esteem (Mageau, Carpentier, & Vallerand, in press), or because the sense of excitement derived from activity engagement became uncontrollable. Eventually, the passionate activity takes disproportionate importance in the person's identity and creates conflicts with other aspects of the person's identity or other activities in the person's life (Vallerand et al., 2003). An example of an obsessive passion would be an athlete who can't help herself and goes out to play her favorite sport while she should be studying for tomorrow's final exam.

In contrast, harmonious passion results from an autonomous internalization of the activity into the person's identity. An autonomous internalization occurs when individuals have freely accepted the activity as important for them. This type of internalization produces a motivational force to engage in the activity willingly and engenders a sense of volition and personal endorsement about pursuing the activity. Individuals are not compelled to do the activity, instead they can freely engage in it without having any contingencies attached to the activity. Thus, even if the activity occupies a significant space in the person's identity, it remains under the person's control and it is in harmony with other aspects of the person's life (Vallerand et al., 2003). An example of a harmonious passion would be an athlete who decides to study for tomorrow's exam instead of playing his/her favorite sport.

#### *Research on Passion and Outcomes*

There were several purposes to the initial work on passion (Vallerand et al., 2003), including three mentioned here: to determine the prevalence of passion for an activity in one's life, to develop the Passion Scale, and to test the validity of some of the elements of the passion constructs. In the initial study, over 500 university students complete the Passion Scale with respect to an activity that they loved, valued, and in which they invested time and energy (i.e., the passion definition criteria). A large variety of passionate activities were reported ranging from physical activity and sports to watching movies, playing a musical instrument, and reading. Participants reported engaging in one specific passionate activity for an average of 8.5 hours per week and had been engaging in that activity for almost 6 years. Results demonstrated that 84% of participants indicated that they had at least a moderate level of passion for a given activity in their lives (they scored at least 4 out of 7 on a question asking them if their favorite activity was a « passion » for them). As pertains to the development of the Passion Scale, Vallerand et al. (2003, Study 1) randomly split their sample of over 500 participants in two subsamples. After conducting an

exploratory factor analysis supporting the presence of two factors corresponding to the two types of passion with the first subsample, they confirmed the bi-factorial structure with the second subsample using confirmatory factor analysis. These findings on the factor validity of the Passion Scale has been replicated in a number of studies with respect to a variety of activities (e.g., Carbonneau, Vallerand, Fernet, & Guay, 2008; Castelda, Mattson, MacKillop, Anderson, & Donovan, 2007; Rousseau, Vallerand, Ratelle, Mageau, & Provencher, 2002; Vallerand & Houliort, 2003; Vallerand, Rousseau, Grouzet, Dumais, & Grenier, 2006, Studies 1, 2, and 3). The Passion Scale consists of 2 subscales of 6 items each reflecting obsessive (e.g., "I almost have an obsessive feeling toward this activity") and harmonious passion (e.g., "This activity is in harmony with other activities in my life"). Furthermore, internal consistency analyses have shown that both subscales are reliable (typically .75 and above). Finally, test-retest correlations over periods ranging from four to six weeks revealed moderately high stability values (in the .80s, Rousseau et al., 2002), thereby supporting the factorial validity and reliability of the scale. With respect to the validity of some of the elements of the passion constructs, a series of critical findings with partial correlations (controlling for the correlation between the two types of passion) revealed that both harmonious and obsessive passions were positively associated with the passion criteria thereby providing support for the definition of passion. In addition, both types of passion were found to relate to one's identity and obsessive passion was found to more strongly relate to a measure of conflict with other life activities than harmonious passion.

Further empirical support has been obtained for the Dualistic Model of Passion (see Vallerand, 2010 for a review). Empirical evidence has shown that the two types of passion predict different affective, behavioral, cognitive, and interpersonal consequences. Specifically, harmonious passion has been positively associated with feelings of fun and enjoyment (Mageau, Vallerand, Rousseau, Ratelle, & Provencher, 2005; Vallerand et al., 2003, Study 1), as well as positive



emotions during and after engagement in the passionate activity (Vallerand et al., 2003; Study 1), perceptions of challenge and control (Mageau et al., 2005), flow and concentration (Vallerand et al., 2003; Study 1), and subjective well-being (Rousseau & Vallerand, 2008; Vallerand, Mageau, et al., 2008, Study 2; Vallerand et al., 2007, Studies 1 and 2). Additionally, harmonious passion has been negatively associated with feelings of guilt and feelings of being judged by others (Mageau et al., 2005). By contrast, obsessive passion has been positively related to feelings of guilt and negative emotions during and after engagement in the passionate activity (Mageau et al., 2005; Vallerand et al., 2003, Study 1), negative affect and rumination when prevented from engaging in the passionate activity (Ratelle, Vallerand, Mageau, Rousseau, & Provencher, 2004; Vallerand et al., 2003, Study 1), depression (Rousseau & Vallerand, 2003), interpersonal conflict (Philippe, Vallerand, Houliort, Lavigne, & Donahue, 2010; Séguin-Lévesque, Laliberté, Pelletier, Blanchard, & Vallerand, 2003;), and rigid persistence (Vallerand et al., 2003; Studies 3 and 4), while being negatively linked to vitality (Mageau et al., 2005; Ratelle et al., 2004; Rousseau & Vallerand, 2003) and perceptions of control (Mageau et al., 2005).

Some studies demonstrated the relation between passion and interpersonal outcomes. Carbonneau and colleagues looked at the role of changes in harmonious and obsessive passions in teachers' perceptions of student's positive outcomes (Carbonneau, Vallerand, Fernet, & Guay, 2008). Over a three-month period, results demonstrated that increases (from Time 1 to Time 2) in both types of passion led to increases in teacher-perceived adaptive student classroom behaviors. These results are in line with the claim that teachers who display a passion for teaching have a positive impact on their students (Day, 2004; Fried, 1995). The findings that harmonious and obsessive passions have a similar and positive impact on others is interesting since the two types of passion are fueled by quite different processes. We believe that students might perceive the vitality, the intensity, excitement, and enthusiasm of their teacher (Patrick et al., 2000) common to harmonious and

obsessive passion because those are visible signs of passion. However, we believe that other variables will determine which type of passion will eventually be transmitted. Moreover, Lafrenière, Jowett, Vallerand, Donahue, & Lorimer (2008) were interested in the coach-athlete relationship. Results from Study 1, conducted with athletes, revealed that harmonious passion leads to high quality coach-athlete relationship, while obsessive passion was generally unrelated to the quality of the coach-athlete relationship. However, obsessive passion was positively related to commitment in the relationship. These results were replicated in a second study with a sample of coaches. Therefore, it would appear reasonable to suggest that being passionate for an activity may influence the quality of relationships during the transmission processes of a passion.

#### ON THE DEVELOPMENT OF PASSION

According to Vallerand and colleagues (2003, 2008, 2010; Vallerand & Miquelon, 2007), there are at least three processes through which an activity can transform into a passionate one: activity valuation, autonomy support, and identity creation. In line with past research (Aron, Aron, & Smollan, 1992; Deci, Eghrari, Patrick, & Leone, 1994), the representation of a person or an activity can be internalized into a person's identity when the person or the activity in question is highly valued and meaningful. Consequently, activity valuation should facilitate the internalization of the activity in one's identity. Another important process in the development of passion pertains to identity (Schlenker, 1985). When an activity becomes so important that it contributes to the formation of one's identity or have the potential to do so, individuals are more likely to become passionate toward this particular activity. Indeed, playing and enjoying basketball everyday should lead this sport to become part of one's self-concept and identity (Houser-Marko & Sheldon, 2006), to the extent that a passion toward basketball should eventually develop. Finally, the role of the social environment is the last important process involved in

the development of a passion. More specifically, parents and significant adults (e.g., teachers, coaches) play an important role in leading children to value a given activity (e.g., Eccles & Wigfield, 2002). Significant adults can underscore the value of an activity either by being passionate toward that same activity, thus spending time with the child in the context of the activity, or by encouraging specialization in the activity at the expense of other activities. In both instances, the activity is likely to be valued and to become part of the child's identity.

However, adults' role in the development of passion goes beyond providing information regarding the value of a given activity. They can also affect the type of internalization through which the activity will become part of the child's identity. As seen previously, how people internalize the highly valued and enjoyable activity in their identity will determine the type of passion that will eventually develop, with controlled and autonomous internalizations leading to obsessive and harmonious passions, respectively (Vallerand, 2008; 2010; Vallerand & Houlfort, 2003; Vallerand & Miquelon, 2007; Vallerand et al., 2006). In line with previous work on the internalization of values (e.g., Black & Deci, 2000; Deci & Ryan, 2000; Grolnick & Ryan, 1989; Grolnick, Ryan, & Deci, 1991; Vallerand, Fortier, & Guay, 1997), it is further proposed that the internalization process can be influenced by the social conditions under which the person engages in the activity. Specifically, if the social environment promotes autonomy support, then an autonomous internalization should take place (Deci & Ryan, 2000). An autonomous internalization is likely to occur when an autonomy-supportive context has been created by parents and adults where children feel some sense of ownership regarding decisions and behaviors. Thus, individuals who engage in a loved activity in an autonomy-supportive context (e.g., Grolnick & Ryan, 1989), that is a context in which they are free to make choices and feel supported in their quest for personal development and improvement, are more likely to internalize the activity in an autonomous fashion. This autonomous internalization of the activity in their identity should consequently lead to the

development of a harmonious passion. Conversely, individuals who engage in their loved activity within a controlling context, where they feel coerced to behave in specific ways and feel that they have little choices, should develop an obsessive passion toward the enjoyable activity.

Recently, researchers have been interested in testing the above hypotheses on the development of harmonious and obsessive passions. In a series of three studies, Mageau and colleagues (2009) measured the development of passion. Results of Study 3, the most complete study of the series, tested some of the above hypotheses. More specifically, Study 3 was conducted with 196 high school students who had never played a musical instrument before. This 5-month longitudinal study was composed of three times of measurement: one at the beginning, one at midpoint, and a final one at the end of the semester. Results indicated that only 36% of participants developed a passion for their musical instrument over the five-month period. Mageau and colleagues' work (2009) led to two major findings. First, children who eventually became passionate toward their musical instrument at the end of the term differed from non-passionate ones in that they were more likely to see the possibility of deriving a sense of identity from the activity. Passionate students valued activity specialization to a greater extent, their parents shared this preference for specialization and valued music to a larger extent, and finally, adults in their social surroundings were more supportive of their autonomy regarding their activity than non-passionate students (Mageau et al., 2009). These results thus underscore that the three major processes hypothesized by Mageau and colleagues come into play in the initial development of a passion toward a given activity, namely identity, valuation, and autonomy support. In other words, children who identified with an activity, who valued it early in the process of activity engagement and who interacted in an environment where the activity was valued and where their autonomy was supported were found to have developed a passion for music five months later.



Second, the results of Study 3 also separated students who developed an obsessive passion from those who developed a more harmonious type of passion. Specifically, results showed that the quality of significant adults' involvement influenced the type of passion that was experienced. Students who developed a harmonious passion by the end of the term had interacted with adults who were more autonomy-supportive than students who developed an obsessive passion toward music. On the other hand, those who interacted with significant adults who highly valued the activity were more likely to develop an obsessive passion (Mageau et al., 2009). These results suggest that excessive social pressure to engage in an activity may facilitate the development of an obsessive passion. Although these pressures lead one to value the activity, thereby facilitating the development of passion (relative to no passion), a marked emphasis on activity valuation from the adults' part may be experienced by children as an obligation to engage in the activity that they love, which sets the stage for the initial development of an obsessive passion.

In a similar vein, Lui, Chen, and Yao (2011) have demonstrated, in organizational settings that the team's autonomy support was positively associated with team member's harmonious passion for work. Similarly, Houliort, Vallerand, and Koestner (2012) demonstrated that organizations that value their employees' work and that make a genuine effort to provide employees with a flexible working environment, where their opinion and choices are valued, create conditions that facilitate harmonious passion. These findings are in line with those of Mageau and colleagues (2009), who demonstrated that autonomy support is one of the most important elements in the development of a harmonious passion. Thus, in line with these findings, we believe that an autonomy-supportive environment created by significant adults should positively influence the novices' interest and future intentions to freely participate in the activity which in turn, can eventually lead to the development of a passion toward that activity.

We have seen above that the type of passion that will initially develop depends on how the activity is internalized in the person's identity. Given equally high levels of activity valuation, an autonomous internalization process should lead to a predominant harmonious passion and a controlled internalization process to a predominant obsessive passion. Vallerand (2010) further posits that once a passion for a given activity has initially developed, its development does not stop there as such development is on-going. Thus, increases and decreases in activity valuation will lead to similar modulation in the intensity of passion. Further, the presence or absence of social and personal factors that pertain to the autonomous vs. controlled internalization process will influence the on-going development of passion in a corresponding fashion. Of course, the internalization process is not an all or none process. While the internalization process leads to the initial development of a predominant type of passion, both types of passion are nevertheless present within the individual to different degrees depending on the social and personal factors at play. The fact that both types of passion are internalized in one's identity makes it possible to facilitate one or the other by making salient certain social or personal factors. Thus, while the predominant type of passion is usually in operation, it is possible to further reinforce the predominant passion or to make the other type of passion operative depending on which type of social or personal factors is made salient.

In sum, Mageau and colleagues (2009) and Vallerand (2010) underline the importance of identity, activity valuation, and autonomy support processes in determining who will become passionate or not for a given activity, as well as the type of passion (harmonious vs. obsessive) that will eventually develop. In line with Mageau's results, we believe that some psychological variables, such as autonomy support, can play a significant role in the transmission of passion.

## ON THE TRANSMISSION OF PASSION

### *The Role of Autonomy Support in the Transmission of Passion*

Autonomy support can be defined as a tendency on the part of some individuals to involve others individuals in decision-making roles and to foster in individuals a sense of responsibility for their own learning (e.g., acknowledging students' perspective, providing a rationale for an activity). In the literature, much research has demonstrated the positive impact of autonomy support in various domains, particularly education (see Deci & Ryan, 2000; Ryan, 1995; Vallerand et al., 1997 for reviews). In general, these studies highlighted that teachers' autonomy support positively influences children's intrinsic motivation, feeling of competence, and actual performance in class (Black & Deci, 2000). Specifically, in line Self-Determination Theory (Deci & Ryan, 1985), research has consistently demonstrated that the teachers' autonomy-supportive style enhances students' autonomous motivation (intrinsic motivation), perceived competence, interest and enjoyment, as well as intention to pursue in the activity (Bengoechea & Streat, 2007; Black & Deci, 2000; Chatzisarantis, Hagger, & Smith, 2007; Grolnick, Ryan, & Deci, 1991; Hagger, Chatzisarantis, Culverhouse, & Biddle, 2003; Soenens & Vansteenkiste, 2005). Moreover, researchers found that the factor with the largest impact on students' intrinsic motivation in physical education class is the teacher and his/her autonomy-supportive teaching style (Assor, Kaplan, & Roth, 2002; Ntoumanis, 2005; Reeve, 2002; Taylor, Ntoumanis, & Standage, 2008).

Furthermore, previous research has also shown the positive influence of perceived autonomy support from parents (e.g. Leff & Hoyle, 1995), coaches (e.g. Smith, Smoll, & Curtis, 1979), and peers (e.g. Scanlan, Carpenter, Lobel, & Simons, 1993) on children's and adolescents' self-perceptions, perceived competence, affective responses, and intrinsic motivation (Taylor & Ntoumanis, 2007; Taylor, Ntoumanis, & Smith, 2009; Taylor, Ntoumanis, & Standage, 2008; Vazou, Ntoumanis, Duda & 2006). Overall, these studies have demonstrated that it is important to promote an autonomy-supportive environment because empirical research has linked autonomy support to adaptive consequences, such as higher levels



of concentration (Standage, Duda, & Ntoumanis, 2005), effort (Ntoumanis, 2001), personal growth, and well being (Deci, Connell, & Ryan, 1989; Reeve, Deci, & Ryan, 2004).

By contrast, a growing body of research has revealed negative effects of psychological control (which represents the opposite of autonomy support) on various aspects of children's adjustment (see Barber, 2002 for a review). More specifically, studies have demonstrated that students display lower levels of intrinsic motivation and self-esteem in environments that promote control or lack of autonomy support (Deci & Ryan, 2002). Controlling teachers are more likely to interfere with students' inner motives because they tend to make salient a teacher-constructed instructional agenda that defines what students should think, feel, and do. To shape students' adherence toward that agenda, controlling teachers offer extrinsic incentives and pressuring language that essentially bypass students' inner motives. Teachers also use controlling strategies more than autonomy-supportive strategies (Newby, 1991) because they often feel pushed into implementing controlling strategies by external pressures such as high stakes testing policies (Deci, Spiegel, Ryan, Koestner, & Kauffman, 1982; Pelletier, Seguin-Levesque, & Legault, 2002; Ryan & La Guardia, 1999). More specifically, Deci and colleagues (Deci et al., 1982) have demonstrated that controlling teachers gave three times as many directives, made three times as many should-type statements, asked nearly twice as many controlling questions, made twice as many criticisms, and gave students much less choice than non-controlling teachers. Moreover, their results showed that controlling teachers were more likely to praise performance over mastery.

With respect to passion, Lafrenière and colleagues (2011) were interested in identifying the determinants of adopting autonomy-supportive or controlling styles (Lafrenière, Jowett, Vallerand, & Carbonneau, 2011). They demonstrated that coaches with a predominant harmonious passion were more likely to use autonomy-

supportive behaviors, while coaches with a predominant obsessive passion were more likely to use controlling behaviors. In sum, in line with these studies on autonomy support and control, we believe that passionate significant adults who promote an autonomy-supportive environment during the activity engagement should facilitate the transmission of a harmonious passion while passionate significant adults who promote a controlling environment should lead to the transmission of an obsessive passion.

*Social Learning Theory and Social Contagion: The Modeling Effects*

Numerous theories have been developed over the years in order to better understand the impact that significant individuals can have on the behaviors, emotions, and cognitions of others. For example, Bandura's Social Learning Theory (1973) was developed in order to measure the psychological processes underlying the transmission or transfer of behaviors and values. Bandura proposed the process of modeling which involves the cognitive, affective, and behavioral changes that occur as a result of observing adults or peers behave. Specifically, models are people whose behaviors, verbal and non-verbal, operate as cues of the modeling process for those observing (Weiss, 1995). A famous example of Bandura's Social Learning Theory (1973) is his experience with the Bobo doll. This classic study by Bandura and his colleagues (Bandura, Ross, & Ross, 1963) demonstrated that preschool children were more likely to use aggressive behaviors when they had previously seen an adult being aggressive with a Bobo doll without being punished than children exposed with non-aggressive adults. Therefore, it seems that children imitated the adult's behaviors toward the doll. According to Bandura (1973), these results illustrate two mechanisms. First of all, new behaviors are learned and stored in the observer's memory and can be subsequently repeated in a similar situation. Secondly, these new behaviors are more likely to be repeated if they are followed by a reward or the absence of punishment. However, Bandura (1973) stipulated that the effect of a

model on an observer depends on the observer's level of attention, his/her motivation, his/her capacity to understand and learn the situation, his/her rehearsal abilities, and his/her physical coordination. For example, a young boy who sees his father kicking and screaming at the dog is more likely to imitate his father if the situation catches the boy's attention; if he has a good reason to repeat the same action; if he understands in which conditions such actions are allowed; if he sees the same situation over and over and finally; if he is physically able to kick and scream.

In line with Bandura (1973), Eccles, Wigfield, and Schiefele (1998) added further evidence for the importance of having role models available in leading young athletes to develop a positive attitude toward the value of achievement and their sport. More specifically, they demonstrated how parents can play a role on children's motivation by influencing their beliefs, expectancies for success, and their subjective task values. Additionally, research from the social learning perspective has provided support for the link between parental and peer role-modeling behaviors and children's and adolescents' levels of participation in physical activities (Anderssen & Wold, 1992; Mota & Silva, 1999). Specifically, these studies have demonstrated that parental beliefs (value of physical activity, perceptions of children's abilities) and related behaviors (encouragement, support) are linked to higher physical activity and perceptions of ability or competence in children (Bois, Sarrazin, Brustad, Trouilloud, & Cury, 2002; Fredricks & Eccles, 2002).

In line with Social Learning Theory, Social Contagion is another important concept which can explain the processes involved in the transmission. Social contagion is an event in which a novice's behavior has changed to become "more like" that of another person. This change occurs in a social interaction in which the first person has not communicated clear intent to evoke such a change in the second (Polansky, Lippitt, & Redl, 1950).



In line with research on social contagion and motivation, Wild and his colleagues were interested in the role of interpersonal cues from others' motives in shaping the functional significance of social events in subtle ways which can lead people to either become involved in activities or to devalue them (Radel, Sarrazin, Legrain, & Wild, 2010; Wild & Enzle, 2002; Wild, Enzle, & Hawins, 1992; Wild, Enzle, Nix, & Deci, 1997). In a series of studies (Wild et al., 1992), people were brought into the laboratory to participate in a teaching-learning session. Two experimental conditions were used in the study: a perceived intrinsically and extrinsically motivated volunteer. In the perceived intrinsically motivated condition, participants were led to believe that the teacher had volunteered to develop and deliver piano lessons in the laboratory. In the perceived extrinsically motivated teacher condition, participants believed that the teacher had agreed to do the same activities in return for 25\$. Teachers were blind to conditions and were trained in a neutral teaching style that was neither autonomy-supportive nor controlling. Therefore, only participants' beliefs about their teacher's motivational orientation (rather than actual teacher behaviors) were manipulated. Results demonstrated that students, who were told that their teacher was intrinsically motivated, were more likely to enjoy the lesson, to report positive affect following the lesson, and to report being interested in learning new piano skills compared to students who were told that their teacher was extrinsically motivated (Wild et al., 1992). In short, the perceived motivational orientations (intrinsic vs. extrinsic) of piano teachers appeared to have influenced students despite the fact that all learners received the same standardized lesson and learned the task to the same criterion level (Wild et al., 1992). Another series of studies (Wild et al., 1997) showed that the motivational orientation toward an activity adopted by a first learner also influenced the motivational orientation of a second learner in the chain.

More recently, Radel and colleagues (Radel, Sarrazin, Legrain, & Wild, 2010) used a similar procedure in order to extend the previous results' of Wild and

colleagues (Wild et al., 1992; 1997). In the initial step of their study, results demonstrated that the first-learners who were taught the activity by an allegedly unpaid instructor reported (i.e., participants were led to believe that the teacher had volunteered to teach the activity) higher interest in learning and exhibited more persistence in a free-choice period than first-learners taught by a supposedly paid instructor (i.e., participants were led to believe that the teacher had agreed to teach the activity for a high amount of pay), despite receiving the same standardized lesson across experimental conditions. In the second step, results indicated that when first-learners taught the activity to their peers in a subsequent learning session, high levels of interest and behavioral persistence were also exhibited by second-learners who received the second lesson. A structural equation model confirmed that second-learners at the end of this educational chain made inferences about how intrinsically motivated their peer tutors were, on the basis of their autonomy-supportive teaching style and the positive affects they displayed, such as enthusiasm. In sum, learners in all these studies closely calibrated their own level of interest in the activity to the motivational orientation they perceived in their teachers (Radel et al., 2010; Wild et al., 1992; Wild et al., 1997). The mere perception of a teacher's motivation for engaging in an activity seems to have affected the students' own intrinsic motivation. These results support the idea that the social contagion of motivational orientations toward learning can spontaneously spread from person to person during social interactions, again without providing task labels or activity goals.

These two theories, specifically Social Learning Theory and Social Contagion Theory, have received little or no attention in the passion literature to date and thus warrant further consideration in the passion transmission processes.

## THE ROLE OF POSITIVE EMOTIONS IN THE TRANSMISSION OF PASSION

### *Mood Contagion*

In line with social contagion, mood or emotion contagion refers to the process by which emotions expressed by one individual are “caught” by another (Hatfield, Cacioppo, & Rapson, 1992). Hatfield, Cacioppo and Rapson (1994) suggested that this occurs because people tend to synchronize and mimic the facial expressions, movements, and postures of those with whom they interact, leading them to experience the same emotions as the other person. Nuemann and Strack (2000) argued that when individuals are not aware that they are being influenced by another’s emotions, the term contagion is appropriate. Many studies have demonstrated this phenomenon with organizational leaders; for example leaders shared with their followers an intense and unique emotional attachment, as well as a motivational arousal (for example; see Bono & Ilies, 2006). The notion that leaders can influence people’s emotions is not new in the scientific literature. In 1942, Redl demonstrated that the contagion of emotions exists in groups and that group leaders are more likely to influence these emotions. Similarly, George (1996) suggested that leaders’ positivity influence the affective tone of the group. Sy, Côté, and Saavedra (2005) have directly linked leaders’ and followers’ mood. Additionally, Bono and Ilies (2006) demonstrated that even when the interactions between leaders and followers were brief and casual, leaders’ positive emotional expressions influenced followers’ mood. Poggi and Germani (1994) found that more than half of all emotions that are felt at work are due to the social interaction with colleagues.

In the literature, affective experiences may be conceptualized as the end result of an appraisal process, which evaluates life experience as either pleasant or unpleasant (Lazarus, 1981, 1982, 1984). Affective experiences may be automatic, originating from a specific stimulus such as a baby picture, or it may be constructed from an elaborate cognitive assessment of a situation such as a high school reunion. People’s affective experiences may be investigated at different levels of generality, from more general and dispositional level (i.e., affective traits) to a more specific level (i.e., situation emotions, such as joy). Many researchers conceptualize affect as



the initial response to some event (e.g., Ortony, Clore, & Collins, 1988; Russell & Feldman Barrett, 1999). This affective response further develops into specific emotions when additional cognitive assessments are performed, eliciting behavioral, motivational, physiological, cognitive, and affective reactions (Frijda, 2000). Positive affect is thus a free-floating pleasant feeling state that motivates people to pursue their initiated line of thinking or action (Clore, 1994).

As described above, harmonious passion derives from an autonomous internalization of the activity. Thus, because the activity one loves is engaged in out of choice, it takes an important, but not overwhelming, space in the person's identity. The individual with a harmonious passion is thus capable of a flexible engagement in the activity that is conducive to a willingness to experience what is occurring at the present moment (Hodgins & Knee, 2002). This process should thus lead the person to experience more fully positive emotions during task engagement (Hodgins & Knee, 2002). Past research has indeed found harmonious passion to be positively related to positive emotions during task engagement (Mageau et al., 2005; Vallerand et al., 2003, Study 1). Additionally, Lafrenière, Donahue, and Vallerand (2008) demonstrated that individuals with a harmonious passion were more likely to experience high levels of positive affect with moderate activation (e.g., happiness), as well as moderate levels of positive affect with high activation (e.g. excitement). Conversely, their results showed that individuals with an obsessive passion were more likely to experience the opposite pattern of positive affect (Lafrenière, Donahue, & Vallerand, 2008).

In parallel to this, Fredrickson (2001) has proposed through the Broaden-and-Build Theory that positive emotions have the virtue of broadening people's thought-action repertoires (Fredrickson, 2001; Waugh & Fredrickson, 2006). Research has shown that positive emotions experienced in a given context facilitate the broadening of thought-action repertoires (Fredrickson & Branigan, 2005) leading to an increase



in perceived similarities with others (Dovidio, Gaertner, Isen, & Lowrance, 1995; Johnson & Fredrickson, 2005) and in positive interpersonal relationships (Waugh & Fredrickson, 2006). It is posited that the experience of positive emotions triggered by harmonious passion should lead to positive behaviors toward others, such as smiles of enjoyment, positive sharing of the activity, and connection toward others (Aron, Norman, Aron, McKenna, & Heyman, 2000) that should, in turn, promote the quality of interpersonal relationships (Cappella, 1997; Shiota, Campos, Keltner, & Hertenstein, 2003). In line with the present thesis, it is posited that good interpersonal relationships should facilitate the transmission of passion between two individuals.

Conversely, because it originates from a controlled internalization of the activity, obsessive passion takes an overwhelming space in the person's identity and turns the person's focus almost exclusively on the activity. Therefore, obsessive passion should result in rigid impersonal functioning and in emotional defensiveness (Hodgins & Knee, 2002). Such a rigid and defensive style should lead to self-closure from intrapersonal and interpersonal experiences (Aron, Aron, & Smolan, 1992), to a poor integrative experience during task engagement, and thus to a less positive or even to a negative emotional experience (Hodgins & Knee, 2002). Past research has shown that obsessive passion is either negatively related or unrelated to positive emotions, but positively associated with negative emotions during task engagement (Mageau et al., 2005; Vallerand et al., 2003, Study 1; Vallerand et al., 2006, Studies 2 and 3). In line with Fredrickson's Broaden-and-Build Theory (2001), negative emotions are posited to lead to a narrowing of the thought-action repertoires (Fredrickson & Branigan, 2005) and thus to poor interpersonal relationships (Waugh & Fredrickson, 2006). Therefore, we believe that the different emotional consequences of each type of passion might mediate the quality of interpersonal relationships experienced within the purview of the passionate activity and facilitate (or hinder) the transmission of a passion.

Furthermore, Lafrenière and colleagues conducted a study with a sample of coaches. These results were in line with the Fredrickson's Broaden-and-Build Theory (2001). More specifically, results from the path analysis confirmed the mediating role of positive emotions between harmonious passion and the quality of coach-athlete relationships. In line with Lafrenière's results (2008), Philippe and colleagues (2010) demonstrated, in a series of four studies on passion and interpersonal relationships, that participants with a harmonious passion were more likely to experience positive emotions, while participants with an obsessive passion were more likely to experience negative emotions. Consequently, results repeatedly demonstrated that positive and negative emotions experienced during the interpersonal relationship predicted positive and negative relationship assessments, respectively (Philippe et al., 2010). Overall, these findings are important because they show that passion does affect the quality of relationships that we develop with people with whom we engage in the passionate activity, from day one.

Finally, in line with the transmission of passion, Cardon (2008; Cardon, Wincent, Singh, & Drnovsek, 2009) was the first to propose the role of emotion in the contagion of passion in an organizational setting. Specifically, Cardon (2008) proposed that emotional mimicry is an important variable in the transmission of passion with entrepreneurs. However, Cardon did not empirically test the role of positive emotions in the transmission process of a passion. Moreover, her definition of positive emotions is vague and involves a wide range positive emotions and activation. We believe that certain types of positive emotions, such as enthusiasm and excitement, may facilitate the transmission of passion over other types of positive emotions with low activation. Recently, enthusiasm and excitement have generated a lot of interest in the literature.

### *Enthusiasm*

In general, enthusiasm is defined by a degree of energy, pleasure, and enjoyment (Kunter et al., 2008). A person who feels enthusiasm is in a state of exultance, fervor, elation; a state quite close to other emotions in the area of joy, exuberance and optimism. Enthusiasm is an individual emotion, but typically one that is felt more intensely if shared with others, and thus easily subject to contagion (Poggi, 2007). The transmission of enthusiasm through contagion occurs with facial expressions, cheerful behaviors, smiles, eyes widely open, sparkling eyes, good mood, and the tendency to talk a lot (Poggi, 2007). To see or to hear other people's enthusiasm makes others feel enthusiastic too, sometimes in an irresistible manner, and it causes an amplification effect that triggers a loop of increased enthusiasm (Kunter et al., 2008). Thus, we believe that enthusiasm is an important positive emotion involved in the transmission of passion between two individuals because it involves high levels of motivation, energy, dynamism, and enjoyment that can be associated with the importance and value given for an activity.

Enthusiasm can be expressed by one and perceived by others in many different situations and domains, such as education. Throughout the literature, researchers have defined teachers' enthusiasm by including different variables such as differences in expressiveness, vocal inflection, friendliness, charisma, humor, and personality (Ware & Williams, 1977); as well as by accepting feelings, praises or encouragements, using students' ideas, asking questions, and giving directions (Payne & Manning, 1986); or as the amount of aggressiveness, boldness, forcefulness, demonstration of an active commitment to the activity, and the amount of intellectual and physical power exhibited by teachers (Weaver & Cotrell, 1987). These elements might play an important role in the transmission of passion between teachers and students.

Within a more scientific approach, many studies have demonstrated the importance of enthusiasm in teachers. Results on enthusiasm demonstrated that (1)

normal as well as learning disabled students appear to be more interested in school subjects when teachers are enthusiastic (Bettencourt, Gillett, Gall, & Hull, 1983; Solomon, 1966); (2) students receiving an enthusiastic teaching scored substantially higher on test evaluations (Bettencourt et al., 1983; Borg, 1980; Brigham, Scruggs, & Mastropieri, 1992; Collins, 1978; Rosenshine, 1970); and (3) classroom behaviors were more acceptable with enthusiastic teachers (Bettencourt et al., 1983; McMillan, 1976; Rosenshine, 1970). A more recent research demonstrated that teachers' enthusiasm was the most powerful unique predictor of students' intrinsic motivation and vitality, while autonomy support and clarity of presentation were respectively the second and third most powerful predictors (Patrick, et al., 2000, Study 1). Therefore, it seems that teachers who are perceived as having a dynamic and enthusiastic teaching style tend to have students who report being highly intrinsically motivated regarding the subject matter as well as feeling energized in class. It is also important to note that among the other variables of influence in the classroom, autonomy support also had a strong relationship with students' intrinsic motivation, thereby providing further support for previous research on the value of autonomy support as a facilitating influence on intrinsic motivation (deCharms, 1976; Roth et al., 2007; Ryan & Grolnick, 1986).

Moreover, in a second study, Patrick et al., (2000) manipulated teachers' enthusiasm to ascertain its subsequent causal influence on students' intrinsic motivation. Results demonstrated that participants (i.e., students) in the high-enthusiasm condition gave consistent reports of greater intrinsic motivation toward learning what the professor was teaching than participants in the low-enthusiasm condition. Moreover, following the lecture, participants in the high-enthusiasm condition were more likely to report feeling energized, alive, and alert than those with less enthusiastic teachers (Patrick et al., 2000). In sum, results clearly demonstrate that a lesson given in a high-energy, dynamic fashion, suggesting high enthusiasm, leads students to experience greater interest in and enjoyment for the material and



higher levels of energy and vigor. Moreover, as discussed above, Radel and colleagues (2010) recently showed that positive emotions, such as enthusiasm, play an important role in the transmission of an intrinsic motivation toward an activity between two individuals. Indeed, the data from the studies reported herein (Patrick et al., 2000; Radel et al., 2010; Ryan & Grolnick, 1986) seem to suggest that seeing one's enthusiasm mobilize energy and increase interest and curiosity in others toward a new activity. Consequently, interest and pleasure toward an activity might be later internalized by the student, leading to the initial development of passion.

### *Excitement*

In line with enthusiasm, we believe that high levels of excitement can play a similar role in the passion transmission processes between two individuals. More specifically, excitement is defined as the sensation due to the increasing arousal of the nervous system that accompanies the process of being stimulated when the stimulus is fairly strong, strong enough to pose a challenge or threat and so demand one's active response (Scitovsky, 1981). In sports, excited athletes report that they cannot stand still, they want to move, their movements are uncontrolled, and they speak in a loud voice (Elias & Dunning, 1988). The challenge is to one's skill, strength, endurance or intellectual capacity while the threat can be to life, health, economic well-being, as well as to one's prestige, status or self-worth. However, in the literature, few studies demonstrate the importance of student's excitement at school. Indeed, studies on excitement have mostly highlighted the role of teachers' excitement during class (Hammons-Bryner & Robinson, 1994; Noam, 2003; Simpson, 1987; Worrell, 1992).

Overall, these studies demonstrate that one of the most important aspects to maintain high level of excitement is to promote active learning. More specifically, active learning implies that students are actively involved during class engagement; they read, write, discuss, solve problems and engage in higher-order thinking tasks as analysis, synthesis, and evaluation (Bonwell & Sutherland, 1996). Studies have

demonstrated that active learning is more optimal in order to create excitement in classroom, than traditional teaching methods (Bonwell & Sutherland, 1996; Keyser, 2000; Prince, 2004). So far, no research demonstrated the importance of excitement in the transmission of passion during activity engagement. However, Wulfert and colleagues (Wulfert, Franco, Williams, Roland, & Maxson, 2008) demonstrated among gamblers that monetary expectancies (threat of losing) are a decisive factor in the excitement of gambling. Thus, having a monetary stake in an outcome that clearly raises the excitement to a different level, and the greater the expected win, the greater the arousal. These results may explain why individuals with an obsessive passion for gambling are more likely to develop pathological problems, because the sense of excitement derived from activity engagement becomes uncontrollable. Therefore, it seems that individuals with an obsessive passion are more likely to seek for higher levels of excitement during activity engagement than harmoniously-passionate individuals.

In sum, in line with Lafrenière, Donahue, and Vallerand (2008), we believe that when the emotions of enthusiasm and excitement are experienced during activity engagement, both emotions will facilitate the transmission of a particular type of passion. More specifically, the experience of enthusiasm during the activity engagement would lead to predominantly harmonious passion while the experience of excitement would lead to predominantly obsessive passion.

#### PRESENTATION OF THE TWO ARTICLES

The present thesis consists of four quantitative studies which seek to examine the transmission of passion from a significant individual to other individuals. As presented earlier, we believe that many variables are involved in the transmission of passion between two individuals. The present thesis was designed in order to explore the main variables involved in the Passion Transmission Model (PTM). More specifically, in line with previous literature on Social Learning Theory (Bandura,



1973), Social Contagion, and SDT (Deci & Ryan, 2002) we believe that significant others can play an important role on the social environment during the transmission of a passion, especially through autonomy support and controlling behaviors. Moreover, additional emphasis was placed on the role of enthusiasm and excitement during activity engagement. We believe that these variables (i.e., autonomy support, control, enthusiasm, and excitement) will help us understand the processes involved in the transmission of a specific type of passion from one person to another.

The first article of this thesis was composed of two empirical studies. In line with Mageau and colleagues (2009), the PTM presented in the first article posits that the impact of significant initiators' passion takes place through their autonomy-supportive behaviors during activity engagement. Thus, the significant initiator' impact on the environment during activity engagement should facilitate the transmission of a particular type of passion. In Study 1, the main goal was to test the PTM with novices who had no prior passion toward an activity. First, in line with Lafrenière et al (2011), it was hypothesized that harmoniously-passionate significant adults would use more autonomy-supportive behaviors than obsessively-passionate significant adults. Second, in line with Mageau et al., (2009), it was expected that autonomy support would predict the transmission of both types of passion. Moreover, the model posits that high levels of autonomy support would also be essential in the transmission of harmonious passion. Third, it was hypothesized that low levels of autonomy support (or controlling behaviors) from significant adults would lead to the development of an obsessive passion. Thus, individuals who engage in their beloved activity within a less autonomy-supportive environment, where they feel coerced to behave in specific ways and feel that they have little choice in their decisions and behaviors, should develop an obsessive passion toward the enjoyable activity (Mageau et al., 2009).

Study 2 tested three major goals. The first goal was to overcome the limit of Study 1 by using a design wherein both the expert and the novice would complete a questionnaire. Thus, both coaches and athletes completed a questionnaire on their respective level of passion. The second goal was to introduce the role of controlling behaviors in the PTM. In line with Vallerand (2010), the final goal was to test the PTM with individuals who already have a passion toward a particular activity. Thus, it was hypothesized that the PTM would be supported with such a population. More specifically, in line with Lafrenière et al., (2011), we hypothesized that harmoniously-passionate coaches would be more likely to promote an autonomy-supportive environment, whereas obsessively-passionate coaches would be more likely to promote a controlling environment. Additionally, it was hypothesized that an autonomy-supportive environment would be an important variable in the transmission of both types of passion, while a controlling environment would facilitate the transmission of an obsessive passion only. We believe that the presence or absence of perceived social factors that pertain to the autonomous vs. controlled internalization process would influence the on-going development of passion.

The second article of this thesis was also composed of two empirical studies. The PTM of the present article builds on the proposed model of the first article and posits that the impact of teachers' passion takes place through his or her autonomy-supportive and controlling behaviors, as well as the enthusiasm and excitement created in students during activity engagement. Thus, the teachers' impact on the environment during activity engagement was expected to facilitate the transmission of a particular type of passion. Specifically, it was expected that harmoniously-passionate teachers would transmit their harmonious passion through autonomy-supportive behaviors and enthusiasm, while obsessively-passionate teachers would transmit their obsessive passion through controlling behaviors and excitement. The goal of Study 1 was to test the PTM toward a new school discipline (i.e., psychology) between teachers and first year college students. By using a longitudinal design, it

was hypothesized that harmoniously-passionate teachers toward psychology would be more likely to promote an autonomy-supportive environment, as well as enhancing students' experience of enthusiasm and excitement. Conversely, it was hypothesized that obsessively-passionate teachers would be more likely to promote a controlling environment and enhance students' experience of excitement. Moreover, it was hypothesized that an autonomy-supportive environment and the experience of enthusiasm would facilitate that transmission of a harmonious passion, while a controlling environment and the experience of excitement would lead to the transmission of an obsessive passion.

The first goal of Study 2 was to replicate the results of Study 1 by using an experimental design. The second goal was to test the PTM with individuals who already have a passion toward psychology. More specifically, three experimental conditions representing a teacher with a harmonious, obsessive, or no apparent passion were created in order to vary the social context presented to the participants. As in Study 1, we posited that the harmoniously-passionate teacher condition would facilitate the transmission of a harmonious passion through autonomy support and enthusiasm, whereas the obsessively-passionate teacher condition would facilitate to transmission of an obsessive passion through control and excitement. Moreover, it was expected that participants would report different outcomes according to their experimental manipulation.

In sum, the present articles seek to examine key variables at play in the PTM, such as autonomy-supportive and controlling behaviors, enthusiasm, and excitement. As described above, the PTM is tested in four studies using different methodologies, populations, and experimental designs. The two articles appear in the following sections.

## CHAPITRE 1

### ARTICLE 1

#### The Role of Autonomy Support In the Transmission of Passion

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## RÉSUMÉ EN FRANÇAIS DE L'ARTICLE 1

Les deux études de cet article découlent du Modèle Dualiste de la Passion (Vallerand et coll., 2003) qui stipule qu'une passion envers une activité est une forte inclinaison envers une activité que l'on aime, que l'on trouve importante et dans laquelle on investit beaucoup de temps et d'énergie. Vallerand et ses collègues (2003) proposent qu'il existe deux types de passion : une passion harmonieuse et une obsessionnelle. La passion harmonieuse est le résultat d'une intériorisation autonome de l'activité dans l'identité de la personne, c'est-à-dire une intériorisation où la personne accepte librement qu'une activité soit importante pour elle, sans qu'aucune contingence soit reliée à l'activité. Comme son nom l'indique, la passion harmonieuse est en harmonie avec les autres activités et sphères de vie de l'individu. La passion obsessionnelle quant à elle est le résultat d'une intériorisation contrôlée de l'activité dans l'identité de l'individu. Ce type d'intériorisation amène l'individu à s'engager dans l'activité pour répondre à des pressions intra- ou interpersonnelles, ou parce que le niveau d'excitation associé à l'activité devient incontrôlable.

De récentes études (Mageau et coll., 2009) ont mesuré empiriquement le développement d'une passion harmonieuse et obsessionnelle chez des étudiants qui n'avaient jamais joué de la musique, et ce, en utilisant le soutien à l'autonomie comme déterminant clé. Les résultats de ces études ont démontré deux points importants. Premièrement, une analyse discriminante a révélé que les étudiants qui avaient finalement développé une passion pour la musique avaient perçu des niveaux plus élevés de soutien à l'autonomie chez leurs professeurs au début de la session que ceux qui n'ont pas développé de passion. Deuxièmement, les résultats ont démontré que la principale variable qui distingue la passion harmonieuse de la passion obsessionnelle est le soutien à l'autonomie. Dans l'ensemble, le travail de Mageau et ses collègues (2009) a souligné l'importance du soutien à l'autonomie, pour déterminer qui va devenir passionné ou non envers une activité, ainsi que le type de passion qui finira par se développer. Toutefois, Mageau et ses collègues n'ont pas étudié la transmission de la passion. Premièrement, aucune donnée n'a été recueillie afin de



mesurer si des individus pratiquant une activité dans un environnement contrôlant pouvaient développer une passion; deuxièmement, les processus de transmission entre deux individus n'ont pas été évalués et finalement, le niveau et le type de passion des experts n'avaient pas été mesurés.

En s'appuyant sur les travaux de Mageau et ses collègues (2009), le Modèle de Transmission de la Passion (MTP) des deux études présentées dans cet article consistait à explorer le rôle du soutien à l'autonomie dans les processus de la transmission de la passion. Plus précisément, le modèle du présent article stipulait premièrement que les experts avec une passion harmonieuse utiliseraient davantage de comportements soutenant l'autonomie que les experts avec une passion obsessionnelle. Deuxièmement, en lien avec Mageau et coll. (2009), le modèle stipule que le soutien à l'autonomie est essentiel dans le développement initial d'une passion envers une activité. De plus, le modèle postule que le soutien à l'autonomie est la variable la plus importante dans le développement d'une passion harmonieuse.

L'Étude 1 présentée dans cet article visait un objectif bien particulier. L'objectif était de tester le MTP entre un expert et un novice pas encore passionné. En lien avec Lafrenière et coll. (2011), le modèle stipulait que les experts avec une passion harmonieuse utiliseraient davantage de comportements soutenant l'autonomie que les experts avec une passion obsessionnelle. En lien avec les recherches antérieures (Mageau et coll., 2009), les perceptions d'un soutien à l'autonomie devraient prédire le développement des deux types de passion. De plus, le modèle stipulait que le soutien à l'autonomie faciliterait la transmission d'une passion harmonieuse chez des individus qui n'avaient pas de passion préexistante envers l'activité. Ces hypothèses ont été soutenues par les résultats d'analyses par équations structurelles (voir Figure 1.1).

L'Étude 2 avait trois objectifs. En utilisant des dyades d'entraîneurs et d'athlètes déjà passionnés pour leur sport, le premier objectif était de surmonter la limite de l'Étude 1 en demandant aux deux parties de la relation de remplir un questionnaire concernant leur passion. En lien avec les résultats de Mageau et coll. (2009, Lafrenière et coll., 2011) qui démontrent qu'un faible niveau de soutien à l'autonomie est plus susceptible de favoriser le développement d'une passion obsessionnelle, nous avons ajouté au MTP le rôle des comportements contrôlants. Finalement, le dernier objectif était de tester le MTP avec des entraîneurs et athlètes qui étaient déjà passionnés pour leur sport, afin de mesurer son application au développement continu de la passion. Dans l'ensemble, avec cette méthodologie, il était suggéré que les entraîneurs avec une passion harmonieuse utilisent davantage de comportements soutenant l'autonomie, tandis que les entraîneurs avec une passion obsessionnelle utilisent plus de comportements contrôlants. De plus, le modèle suggérait à nouveau que le soutien à l'autonomie faciliterait la transmission des deux types de passion, mais plus fortement une passion harmonieuse. À l'opposé, il était suggéré que les

comportements contrôlants faciliteraient la transmission d'une passion obsessive. Les résultats des analyses par équations structurelles ont supporté les hypothèses (voir Figure 1.2).

Pour conclure, cet article démontre que la transmission de la passion entre deux personnes existe et que la variable clé de ce processus de transmission est le soutien à l'autonomie. De plus, ces deux études démontrent que les processus de transmission sont similaires lorsqu'il s'agit de novices qui n'ont pas encore de passion préexistante ou lorsqu'ils sont déjà passionnés envers une activité.

### Abstract

In line with the Dualistic Model of Passion (Vallerand et al., 2003), the purpose of the present research was to test a Passion Transmission Model (PTM). The present model tested the following sequence in two studies: "Significant Adults' Type of Passion  $\Rightarrow$  Perceptions of Autonomy Support  $\Rightarrow$  Novices' Types of Passion". First, the model proposed that significant adults' type of passion determines if they will use autonomy-supportive behaviors during activity engagement. Second, the model posited that autonomy support is essential in the initial development of a passion. Additionally, the model posited that autonomy support is the most important variable in the development of a harmonious passion. In Study 1, this model was tested with participants who had no prior passion toward an activity. More specifically, the model posited that a significant adult's harmonious passion should positively predict, while adult's obsessive passion should negatively predict, their use of autonomy-supportive behaviors. Consequently, autonomy-supportive behaviors should positively predict the transmission of both types of passion in the novices. In Study 2, this model was also tested with already passionate coaches and athletes (dyads) in order to test the role of the PTM in the on-going development of passion. Additionally, the model of Study 2 posited that coaches with an obsessive passion should positively predict their use of controlling behaviors. Consequently, the athletes' perceptions of coaches' controlling behaviors should predict the transmission of an obsessive passion in the athletes. The PTM was supported by the results in both studies. These results have important implications for theory and research on passion.

*Keywords:* Passion, Transmission, Autonomy Support, Control.

### **The Role of Autonomy Support in the Transmission of Passion**

Throughout life, we meet important and passionate individuals who have the potential to influence the way we think, feel, act, and live. These passionate people might even transmit their passion for their beloved activity. While research on the development of passion has been contributing to the concept of passion (Mageau et al., 2009), so far, no research has studied the transfer of passion from one person to another for the same activity. Specifically, does the transmission of passion exist? If so, what processes are involved? Answering these two questions represents the purpose of the present research.

#### **The Dualistic Model of Passion**

Vallerand and his colleagues (Vallerand, 2008; 2010; Vallerand et al., 2003; Vallerand & Houlfort, 2003; Vallerand & Miquelon, 2007) have proposed a Dualistic Model of Passion, where passion is defined “as a strong inclination toward a self-defining activity that one loves, finds important, and invests a substantive amount of time and energy” (Vallerand, 2008, p. 1). These passionate activities come to be so self-defining that they represent central features of one’s identity (Vallerand, 2010). For example, an individual who loves playing music, finds it important, and invests a lot of time and energy in it is said to have developed a passion toward music. In addition, an activity can help people develop a sense of identity. Vallerand et al. (2003) proposed that when a person values, loves, and engages in an activity on a regular basis, the representation of this activity becomes integrated in the person’s identity, consequently leading to the development of a passion toward this activity. The activity has become so integrated into the person’s identity that it represents one

of its central features. For example, those who have a passion for playing music see themselves as “musicians”.

Furthermore, Vallerand and his colleagues (2003) proposed that depending on the way through which the passionate activity has been internalized into the person's identity, two distinct types of passion can arise. An obsessive passion results from a controlled internalization of the activity into the person's identity. With an obsessive passion people feel like they have to engage in the activity due to internal forces that control them. These individuals feel an urge to engage in the beloved activity either because of intrapersonal and/or interpersonal pressures and contingencies are attached to the activity, such as social acceptance or self-esteem (Mageau, Carpentier, & Vallerand, in press), or because the sense of excitement derived from activity engagement becomes uncontrollable. Eventually, the passionate activity takes disproportionate importance in the person's identity and creates conflicts with other aspects of the person's self or other activities in the person's life (Vallerand et al., 2003). An example of an obsessive passion would be an athlete who can't help himself and goes out to play his favorite sport while he should be studying for tomorrow's final exam. During the game, he might feel upset with himself for playing his favorite sport instead of studying for the exam. He might therefore not fully focus on the task at hand (sport) and may not experience as much positive affect and flow as he should while playing.

In contrast, a harmonious passion results from an autonomous internalization of the activity into the person's identity. An autonomous internalization occurs when individuals have freely accepted the activity as important for them. This type of internalization produces a motivational force to engage in the activity willingly and engenders a sense of volition and personal endorsement about pursuing the activity. Individuals do not feel compelled to do the activity, instead they can freely engage in it without having any contingencies attached to the activity. Thus, even if the activity



occupies a significant space in the person's identity, it remains under the person's control and is in harmony with other aspects of the person's life (Vallerand et al., 2003). For instance, an individual with a harmonious passion would rather decide to study for tomorrow's exam instead of playing his favorite sport. More precisely, when confronted with the possibility of playing their favorite sport with their friends or studying for a final exam, individuals with a harmonious passion toward sport can readily tell their friends that he will take a rain check and proceed to be fully immersed in the preparation of the final exam without thinking about the game.

In the initial study, Vallerand and colleagues (2003) demonstrated that passionate individuals engaged in their activity for an average of 8.5 hours per week and had been engaging in that activity for almost 6 years. Moreover, 84% of the 500 participants indicated that they had at least a moderate level of passion in their lives (they scored at least 4 out of 7 on a question asking them if their favorite activity was a « passion » for them). Research from the Vallerand et al. (2003, Study 1) study has provided empirical support for several aspects of the passion conceptualization. First, results from exploratory and confirmatory factor analyses provided strong support for the existence of two constructs corresponding to harmonious and obsessive passion. Second, subsequent research has supported the bifactor structure validity of the scale in a number of life contexts including sports (Vallerand et al., 2006, Study 1), gambling (Castelda, Mattson, MacKillop, Anderson, & Donovan, 2007; Rousseau, Vallerand, Ratelle, Mageau, & Provencher, 2002), and work (Houlfort & Vallerand, 2006; Vallerand & Houlfort, 2003). Furthermore, internal consistency analyses supported the reliability of the scale. Finally, results from the Vallerand et al. (2003, Study 1) also revealed that both types of passion were positively associated (partial correlations, controlling for the common variance between the two types of passion) with measures of activity valuation and measures of the activity being perceived as a passion, thereby providing support for the definition of passion. In addition, while



both types of passion were seen as being part of one's identity, only obsessive passion was positively related to a measure of conflict with other life activities.

Further, empirical evidence has shown that the two types of passion lead to different affective, behavioral, cognitive, interpersonal, and societal consequences in various activities such as gambling, work, education, sport, and leisure. Specifically, harmonious passion has been positively associated with feelings of fun and enjoyment (Mageau, Vallerand, Rousseau, Ratelle, & Provencher, 2005; Vallerand et al., 2003), as well as positive emotions during and after engagement in the passionate activity (Vallerand et al., 2003), perceptions of challenge and control (Mageau et al., 2005), flow and concentration (Vallerand et al., 2003), and subjective well-being (Rousseau & Vallerand, 2008; Vallerand, Mageau, Elliot et al., 2008; Vallerand, Ntoumanis, Philippe et al., 2008; Vallerand et al., 2007). Additionally, harmonious passion has been negatively associated with feelings of guilt and feelings of being judged by others (Mageau et al., 2005). In contrast, obsessive passion has been positively related to feelings of guilt and negative emotions during and after engagement in the passionate activity (Mageau et al., 2005; Vallerand et al., 2003), negative affect and rumination when prevented from engaging in the passionate activity (Ratelle, Vallerand, Mageau, Rousseau, & Provencher, 2004; Vallerand et al., 2003), depression (Rousseau & Vallerand, 2003), and interpersonal conflict (Séguin-Lévesque et al., 2003), while being negatively linked to vitality (Mageau et al., 2005; Ratelle et al., 2004; Rousseau & Vallerand, 2003).

In sum, a great deal of empirical support has been obtained for the Dualistic Model of Passion (see Vallerand, 2010 for a complete review). Research provided strong support for the validation of the concept of harmonious and obsessive passion. Since the initial publication, many studies have been conducted on the role of passion in a host of cognitive, affective, behavioral, relational, and performance outcomes experienced within the realms of hundred of passionate activities. However, very

little research so far has been conducted on the development and transmission of passion.

### **On the Development of Passion**

The Dualistic Model of Passion (see Vallerand, 2010 for a review) posits that three processes should influence the initial development of passion toward an activity: activity selection, activity valuation, and the internalization of the activity representation in one's identity. Activity selection refers to the person's preference for the activity over other activities. To the extent that the person feels that such selection reflects the person's true choice and interests and is consonant with one's identity, it should promote the development of passion toward that activity. Activity valuation (or the subjective importance given to the activity by the person) is expected to play an important role in the internalization of the activity in identity. Research has indeed shown that when the object of interest is highly valued and meaningful, one is inclined to internalize the valued object, to make it part of him or herself (Aron, Aron, & Smollan, 1992; Deci et al., 1994). The more important (or valued) the activity, then the more the activity will be internalized in the person's identity, and consequently the more passionate the person will be toward this activity. Thus, activity valuation can be seen as the intensity (or quantity) dimension (the fuel) underlying activity internalization and the development of passion.

It is further proposed that once an interesting activity becomes highly valued, the type of passion that will ensue is determined by the type of internalization that takes place. This last process can be seen as affecting the "quality" dimension or the type of passion that will take place. A controlled internalization of the activity representation is expected to lead to the development of an obsessive passion and an autonomous internalization to harmonious passion. It is further proposed that one important determinant of the internalization process is the extent to which the social environment promotes one's autonomy (Deci & Ryan, 1987) toward activity

selection and activity valuation. Much research has shown that autonomy support (or promoting the choice and self-initiation of another person's behavior) from parents and teachers facilitates children's autonomous internalization of values and regulations of non-interesting activities such as school (see Grolnick & Ryan, 1989; Vallerand, Fortier, & Guay, 1997). In line with previous work on internalization processes (e.g., Black & Deci, 2000; Deci & Ryan, 2000; Grolnick & Ryan, 1989; Grolnick, Ryan, & Deci, 1991; Vallerand, 2010; Vallerand, Fortier, & Guay, 1997), it is proposed that the transmission process can be influenced by the social conditions under which the person engages in the activity. Therefore, a social environment that promotes personal choices and decisions should facilitate an autonomous internalization of the activity in one's identity (Deci & Ryan, 2000; Mageau et al., 2009). An autonomous internalization is likely to occur when an autonomy-supportive context has been created by significant adults. Thus, individuals who engage in a valued activity in an autonomy-supportive context (e.g., Grolnick & Ryan, 1989) are more likely to internalize the activity in an autonomous fashion. This autonomous internalization of the activity in their identity should consequently lead to the development of a harmonious passion. Conversely, once a given activity has been selected and is highly valued by the individual, a controlling environment should facilitate a controlled internalization of the activity in one's identity, thereby leading to an obsessive passion for the activity.

In a recent study, Mageau and colleagues have tested those hypotheses on the development of harmonious and obsessive passions for music (Mageau et al., 2009; Study 3). In this study, first-year high school students who had never played a musical instrument completed a series of questionnaires early in the term assessing passion toward music and perceived autonomy support from parents and music teachers. By following participants who were registered in their first music class over the course of their first semester, Mageau and colleagues (2009) identified those who developed a passion for music at the end of the term, and, among those who did,



predicted those who developed a harmonious or an obsessive passion. The findings demonstrated that activity selection and valuation, identity processes, and autonomy support are key variables in the development of a passion. However, Mageau et al., (2009) demonstrated that perceived autonomy support from close adults (parents and music teachers) was the most important element and plays two functions in the development process. First, findings demonstrated that students who reported higher levels of parental and teacher autonomy support earlier in the term were more likely to develop a passion, regardless of the type of passion, toward music at the end of the term. Thus, some level of autonomy support is needed in order to develop both types of passion. Second, findings showed that perceived autonomy support was more important in the development of a harmonious passion, whereas low autonomy support led to the development of an obsessive passion. Thus, students who experienced higher levels of autonomy support from close adults were more likely to become harmoniously-passionate toward music. Moreover, even if autonomy support is needed to develop a passion, results demonstrated that the lower the levels of autonomy support, the more students developed an obsessive passion for music (Mageau et al., 2009). Additionally, similar results were found with individuals who were already passionate (Mageau et al., 2009, Study 1 and 2). In a similar vein, Lui, Chen, and Yao (2011) have demonstrated, in organizational settings, that team autonomy support positively predicted team members' harmonious passion for work.

If autonomy support is important for the development of passion, then what are its determinants? Researchers (Roth, Assor, Kanat-Maynon, & Kaplan, 2007) have demonstrated that teachers' autonomous motivation for teaching predict the use of autonomy-supportive behaviors and consequently, enhanced the students' autonomous motivation toward learning. In line with Self-Determination Theory (Deci & Ryan, 1985), individuals' autonomous motivation was associated with behaviors that promote an autonomy-supportive style that involves taking the novices' perspective into account, providing the novices with a rationale for tasks,

and encouraging self-initiative from novices. With respect to passion, Lafrenière and colleagues (2011) demonstrated that coaches with a predominant harmonious passion were more likely to use autonomy-supportive behaviors, while coaches with a predominant obsessive passion were more likely to use controlling behaviors (Lafrenière, Jowett, Vallerand, & Carbonneau, 2011).

In sum, research (Lafrenière et al., 2011; Lui et al., 2011; Mageau et al., 2009) has underlined the key role of autonomy support in determining who will become passionate or not for a given activity, as well as the type of passion (harmonious vs. obsessive) that will eventually develop. Further, Mageau and colleagues (2009, Studies 1 and 2) demonstrated that similar processes seem to be at play with individuals who have no prior passion for an activity and those who are already passionate toward an activity.

### **The Present Research: The Passion Transmission Model**

The purpose of the present research was to test the Passion Transmission Model (PTM) in two studies with the following sequence: “Significant Adult’s Type of Passion  $\Rightarrow$  Perceptions of Autonomy Support  $\Rightarrow$  Novices’ Types of Passion”. Specifically, this model posits that the impact of significant adults’ passion should take place through their autonomy-supportive behaviors during activity engagement. Thus, significant adults’ type of passion should influence the environment in which the novice practices the activity, and consequently this environment should facilitate the transmission of a particular type of passion. This model was tested in two studies: one with individuals who had no prior passion and the other one with already passionate individuals toward a specific activity.

Study 1 used a retrospective design to explore the relationship between the novice’s perceptions of the significant adult’s type of passion and the novice’s type of passion using the novice’s perceptions autonomy-supportive behaviors as a mediator.



It was hypothesized that the significant adult's harmonious passion would positively predict, while the significant adult's obsessive passion would negatively predict, the novice's perceptions of autonomy-supportive behaviors. In turn, in line with Mageau and colleagues' work (2009), perceptions of autonomy-supportive behaviors were expected to positively predict the transmission of both types of passion in the novices. However, autonomy support was also expected to influence the transmission of a harmonious passion to a higher level than obsessive passion. Results of Study 1 were expected to be replicated in Study 2 with dyads (a coach and an athlete). In line with Vallerand (2010), we believed that the transmission of passion also operates with individuals who already have a passion toward an activity. More specifically, the model of Study 2 posited that harmoniously-passionate coaches were more likely to promote an autonomy-supportive environment, while obsessively-passionate coaches were more likely to report promoting a controlling environment (Lafrenière et al., 2011). Once again, in line with Mageau (Mageau et al., 2009), it was hypothesized that perceptions of autonomy support would facilitate the transmission of both types of passion in athletes and that athletes in an autonomy-supportive environment would report harmonious passion as their predominant orientation. However, in addition, obsessively-passionate coaches were expected to transmit their obsessive passion to their athletes because obsessively-passionate coaches were more likely to promote a controlling environment.

### **Study 1**

The goal of Study 1 was to test the PTM depicted above with individuals who had no prior passion toward an activity. First, in line with Lafrenière et al (2011), it was hypothesized that harmoniously-passionate significant initiators would use more autonomy-supportive behaviors than obsessively-passionate significant initiators. Second, in line with Mageau et al., (2009), it was expected that autonomy support would be the most important variable in the initial transmission of both types of

passion. Moreover, the model posits that high levels of autonomy support would also be essential in the transmission of a harmonious passion. Third, it was hypothesized that low levels of autonomy support from significant initiators would lead to the development of an obsessive passion. Thus, individuals who engage in their beloved activity within a less autonomy-supportive or a controlling environment, where they feel coerced to behave in specific ways and feel that they have little choice in their decisions and behaviors, should develop an obsessive passion toward the enjoyable activity (Mageau et al., 2009).

## Method

**Participants.** A total of 125 participants (56 males and 69 females) were recruited in various university classes. The average age of participants was 22 years ( $SD = 3.99$  years). On average, these participants engaged in their passionate activity for 9.75 hours per week ( $SD = 8.28$  hours) and had been engaging their passionate activity for an average of 8.46 years ( $SD = 5.79$  years). These participants engaged in various types of activities, such as sport, leisure, and music. Novice reported that significant adults were mostly parents (26%), teachers (20%), coaches (24%), and friends (30%). On average, novices have been introduced to the activity at the age of 13 years ( $SD = 5.87$  years) and have been practicing the activity with their significant adults for 5.25 years in a row ( $SD = 7.72$  years).

**Procedure.** Participation was voluntary and a consent form was signed by all participants. Participants were told that the purpose of the questionnaire was to learn more about their passionate activity. Each participant filled out the questionnaire individually in class and returned it to the experimenter. Prior to the study, we obtained permission from the teachers to conduct the study. Participants were told that the questionnaire was divided into two sections. The first section assessed the participant's passion toward the beloved activity, while the second section assessed their perceptions of their initiator's passion, as well as autonomy support while they

engaged in the activity. After completing the questionnaire, participants were debriefed with respect to the specific purposes of the study.

## Measures

In addition to demographic information, the questionnaire was composed of scales assessing the perceived types of passion of the significant initiator and autonomy support of the significant initiator, as well as the novice's passion toward the activity. All scales, except the demographic variables, were scored on a 7-point Likert scale, ranging from 1 (*do not agree at all*) to 7 (*very strongly agree*).

**Novice's Passion.** The Passion Scale was originally developed by Vallerand and colleagues (2003). The Passion Scale consists of 2 subscales of 6 items each reflecting obsessive (e.g., "I almost have an obsessive feeling toward this activity") and harmonious passion (e.g., "This activity is in harmony with other activities in my life"). In the present study, the novice's passion was measured using the Passion Scale (Vallerand et al., 2003). The novices reported their levels of harmonious ( $\alpha = .70$ ) and obsessive ( $\alpha = .74$ ) passion. Overall, the Passion Scale has been used in several studies and has been found to display high levels of validity and reliability (Mageau et al., 2005; Ratelle et al., 2004; Rousseau et al., 2002; Séguin-Lévesque et al., 2003; Vallerand et al., 2003; Vallerand et al., 2008). Vallerand et al., (2003, Study 1) conducted an exploratory factor analysis with half of their sample and they confirmed the bi-factorial structure with the other half of their sample using confirmatory factor analysis. These findings on the factor validity of the Passion Scale has been replicated in a number of studies with respect to a variety of activities (e.g., Carbonneau, Vallerand, Fernet, & Guay, 2008; Castelda et al., 2007; Vallerand & Houliort, 2003; Vallerand et al., 2006, Studies 1, 2, and 3). In addition, the Passion Scale also assesses the three passion criteria (i.e., activity valuation, time investment, and love for the activity; Vallerand et al., 2003). These items were used to differentiate between the non-passionate and the passionate participants.

***Perceived Autonomy Support.*** Four items from the Perceived Autonomy Support: The Learning Climate Questionnaire (Black, & Deci, 2000; Williams, Wiener, Markakis, Reeve, & Deci, 1994) were used to assess perceived autonomy support of the significant initiator ( $\alpha = .87$ ). This scale was composed of items such as “During the activity, this person (the initiator) encouraged me to ask questions”. The Perceived Autonomy Support: The Learning Climate Questionnaire has been used in several studies and has been found to display high levels of validity and reliability (see Black, & Deci, 2000).

***Significant Initiator's Passion.*** In the present study, the novice's perceptions of the significant initiator's passion were also measured using the Passion Scale (Vallerand et al., 2003). In this scale, items were modified in order to measure the passion of the significant initiator perceived by the novice; items such as “According to you, for this person (the significant adult), the activity was in harmony with the other activities of his/her life” and “According to you, this person (the significant adult) had almost an obsessive feeling for his/her activity” were used to assess harmonious ( $\alpha = .83$ ) and obsessive passion ( $\alpha = .90$ ).

## **Results and Discussion**

The means, standard deviations, as well as the correlation matrix for the different variables are presented in Table 1.1. The hypothesized model was tested using a path analysis (i.e., a structural model with observed variables) with LISREL 8.80 (Jöreskog & Sörbom, 2003). The covariance matrix served as database for the path analysis and the method of estimation was maximum likelihood. As shown in Figure 1.1, the model was composed of two exogenous variables (i.e., perceptions of the significant initiator's harmonious and obsessive passion) and three endogenous variables (i.e., novice's perceptions of the significant initiator's autonomy support and novice's harmonious and obsessive passion). A covariance was expected between



perceptions of the initiator's harmonious and obsessive passion. Paths were specified according to the hypotheses of the theoretical model.

The results of the path analysis revealed a satisfactory fit of the model to the data (see Figure 1.1). The chi-square value was not significant,  $\chi^2$  ( $df = 2$ ,  $N = 125$ ) = 2.68,  $p > .05$ , and fit indices were satisfactory, with the CFI = .99, the GFI = .99, the NFI = .98, the SRMR = .031, and the RMSEA = .053 [.00; .16] indicating support for the hypothesized model. As shown in Figure 1.1, results indicated that the significant adult's harmonious passion positively predicted the perceptions of autonomy-supportive behaviors ( $\beta = .62$ ), while the significant initiator's obsessive passion negatively predicted the perceptions of autonomy-supportive behaviors ( $\beta = -.19$ ). In turn, the perceptions of autonomy-supportive behaviors positively predicted the novice's harmonious ( $\beta = .24$ ) and obsessive passion ( $\beta = .20$ ). Finally, the perceptions of the significant initiator's harmonious passion was directly and positively related to the novice's harmonious passion ( $\beta = .40$ ), while the perceptions of the significant initiator's obsessive passion was directly and positively related to the novice's obsessive passion ( $\beta = .44$ ). All paths in the model were significant.

In sum, as predicted, the hypothesized model was supported with individuals who had no prior passion toward an activity. In line with Lafrenière and colleagues (2011), the significant initiator's harmonious passion positively predicted, while the significant initiator's obsessive passion negatively predicted, the perceptions of autonomy-supportive behaviors. More importantly, in line with Mageau and colleagues' work (2009), the novices' perceptions of autonomy-supportive behaviors positively predicted the transmission of both types of passion. Additionally, perceived autonomy-supportive behaviors predicted to a higher level the transmission of a harmonious passion. Thus, overall, the present findings provided preliminary support for the role of autonomy support as a key variable in the PTM. In fact, it seems that individuals who start a new activity in an autonomy-supportive environment with a



harmoniously-passionate significant initiator are more likely to become passionate and to pursue in activity engagement.

## Study 2

We have seen above that the type of passion that will initially be transmitted depends on how the social environment is created by a passionate significant adult. As demonstrated by Mageau and colleagues (2009), given equally high levels of activity valuation, an autonomous internalization process should lead to a predominant harmonious passion and a controlled internalization process to a predominant obsessive passion. The Dualistic Model of Passion further posits that once a passion for a given activity has initially developed, its development does not stop there as such development is on-going (Vallerand, 2010). Thus, the presence or absence of social factors that pertain to the autonomous versus controlled internalization process will influence the on-going development of passion in a corresponding fashion (Mageau et al., 2009, Study 1 and 2; Lui et al, 2011). Thus, an autonomy-supportive environment should reinforce a preexistent harmonious passion while a controlling environment should lead to an obsessive passion.

The results of Study 1 provided preliminary evidence for the proposed PTM. However, two important limits of Study 1 were that the initiators' passion was reported by the novices themselves and that the study was conducted using a retrospective design. Thus, it was impossible to measure the real impact of the significant adults' passion with such a design. Therefore, Study 2 tested three major goals. The first goal was to overcome the limit of Study 1 by using coach-athlete relationships, wherein both coaches and athletes completed a questionnaire on their respective level of passion. The second goal was to include controlling behaviors in the PTM. In line with Vallerand (2010), the final goal was to test the PTM with individuals who already have a passion toward a particular activity. In the present study, it was hypothesized that the PTM would be supported with such population.

More specifically, in line with Lafrenière et al., (2011), we hypothesized that harmoniously-passionate coaches would be more likely to promote an autonomy-supportive environment, whereas obsessively-passionate coaches would be more likely to promote a controlling environment. Additionally, it was hypothesized that autonomy-supportive environment would be an important variable in the transmission of both types of passion. Moreover, it was expected that high levels of autonomy support would also be essential in the transmission of a harmonious passion.

Finally, it was hypothesized that controlling environment would facilitate the transmission of an obsessive passion only. Thus, we believe that the presence or absence of perceived social factors that pertain to the autonomous vs. controlled internalization process would influence the on-going development of passion.

## Method

**Participants.** Participants were 103 coach-athlete dyads (93 male coaches, 10 female coaches, 63 male athletes, and 40 female athletes) engaged in one of several sports (e.g., gymnastics, volleyball, soccer, and football). The mean age of the coaches was 44.23 years ( $SD = 7.94$  years), while the mean age of the athletes was 22.04 years ( $SD = 5.29$  years). On average, coaches had been coaching for 15.75 years ( $SD = 12.53$  years), while athletes had been participating in their sport for 8.54 years ( $SD = 3.64$  years). The average coach-athlete relationship length was 2.88 years ( $SD = 2.03$  years).

**Procedure.** Coaches were contacted through a variety of means (e.g., e-mail, letter) and invited to participate in the study. Once the coaches consented to participate, athletes' permission was then sought. Coaches were allowed to choose any one athlete from his/her team as long as they had been training with this particular athlete for at least 3 months. Prospective participants were informed about the general aims of the study and the requirements for participation. Each member of the dyad (i.e., coaches and athletes) who consented to participate was supplied with a

questionnaire. Coaches' questionnaire contained demographic questions (e.g., age, gender), the Passion Scale toward coaching their beloved sport (Vallerand et al., 2003), and scales assessing autonomy-supportive and controlling behaviors used toward their athletes. Whereas, athletes' questionnaire contained demographic questions (e.g., age, gender), the Passion Scale toward their sport, and scales assessing their perceptions of their coach's autonomy-supportive and controlling behaviors. Following the instructions supplied by the test administrator, participants completed the questionnaire independently.

## Measures

In addition to demographic information, the coaches' questionnaire was composed of scales assessing the coaches' passion toward coaching, autonomy support, and controlling behaviors, while the athletes' questionnaire was composed of scales assessing the athletes' passion toward their sport, the perceptions of autonomy support and controlling behaviors from their coach. The internal reliability coefficients for all scales were acceptable and are presented in Table 1.2. All scales, except the demographic variables, were scored on a 7-point Likert scale, ranging from 1 (*do not agree at all*) to 7 (*very strongly agree*).

***Passion toward an activity.*** Both athletes' and coaches' passion were assessed using the Passion Scale (Vallerand et al., 2003), the same scale used in Study 1. The items were adapted to refer to a specific sport for athletes or to coaching their beloved sport for coaches.

***Coaches' autonomy support.*** Coaches' autonomy-supportive behaviors toward their athletes were assessed using an adapted version of the four items used to measure the athletes' perceptions of autonomy support (sample item: "I encouraged my athlete to ask questions.").

*Coaches' controlling behaviors.* Based on Mageau and Vallerand (2003), four items were modified to assess coaches' controlling behaviors toward their athletes (sample item: "I control every aspect of the practice/training.").

*Athletes' perceptions of coaches' autonomy support.* The athletes' perceptions of autonomy-supportive behaviors were assessed using four items (sample item: "During practice/training, my coach encourages me to ask questions.") from the Perceived Autonomy Support: The Learning Climate Questionnaire used in Study 1 (Black, & Deci, 2000; Williams, Wiener, Markakis, Reeve, & Deci, 1994).

*Athletes' perceptions of coaches' controlling behaviors.* Based on Mageau and Vallerand (2003), four items assessing athletes' perceptions of their coach's controlling behaviors were used (sample item: "My coach controls every aspect of the practice/training.").

## Results and Discussion

The means, standard deviations, alphas, as well as the correlation matrix for the different variables are presented in Table 1.2. The hypothesized model was tested using a path analysis (i.e., a structural model with observed variables) with LISREL 8.80 (Jöreskog & Sörbom, 2003). The covariance matrix served as database for the path analysis and the method of estimation was maximum likelihood. As shown in Figure 1.2, the model was composed of two exogenous variables (i.e., harmonious and obsessive passion toward coaching) and six endogenous variables (i.e., coach's autonomy support, coach's controlling behaviors, athletes' perceptions of the coach's autonomy support and controlling behaviors, and athlete's harmonious and obsessive passion). Covariance was expected between coaches' harmonious and obsessive passion, between coaches' autonomy-supportive and controlling behaviors, between athletes' perceptions of coaches' autonomy-supportive and controlling behaviors, and



between athletes' harmonious and obsessive passion. Paths were specified according to the hypotheses of the theoretical model.

The results of the path analysis revealed a satisfactory fit of the model to the data (see Figure 1.2). The chi-square value was not significant,  $\chi^2$  ( $df = 17$ ,  $N = 103$ ) = 27.09,  $p > .05$ , and fit indices were satisfactory, with the CFI = .94, the GFI = .94, the NNFI = .90, the SRMR = .088, and the RMSEA = .077 [.00; .13] indicating support for the hypothesized model. As shown in Figure 1.2, results indicated that coaches' harmonious passion positively predicted coaches' autonomy-supportive behaviors ( $\beta = .50$ ), while coaches' obsessive passion positively predicted their controlling behaviors ( $\beta = .29$ ). The coaches' autonomy-supportive behaviors positively predicted athlete's perceptions of coaches' autonomy-supportive behaviors ( $\beta = .43$ ), while coaches' controlling behaviors positively predicted athletes' perceptions of their coaches' controlling behaviors ( $\beta = .19$ ). Finally, athletes' perceptions of coaches' autonomy-supportive behaviors positively predicted both athletes' harmonious ( $\beta = .36$ ) and obsessive passion ( $\beta = .25$ ), while athletes' perceptions of coaches' controlling behaviors positively predicted only athletes' obsessive passion ( $\beta = .25$ ).

The findings of Study 2 provided support for the proposed PTM. Results demonstrated that the passion transmission processes identified in Study 1 also apply to individuals who already have a passion toward an activity. Specifically, in line with Study 1, coaches' harmonious passion positively predicted their use of autonomy-supportive behaviors, while coaches' obsessive passion positively predicted their use of controlling behaviors. In turn, the athletes' perceptions of their coaches' autonomy support predicted both types of passion. In addition, as expected, perceptions of autonomy support predicted the transmission of a predominant harmonious passion more strongly than obsessive passion. Furthermore, findings

demonstrated that the athletes' perceptions of their coaches' controlling behaviors only predicted the transmission of an obsessive passion.

Thus, overall, the present findings provided additional evidence for the important role of autonomy support in the transmission processes. They also highlighted the psychological processes that appear to be at play in the coach-athlete relationships. Specifically, the passion transmission process is an on-going progression because the environment surrounding the activity facilitates one's type of passion over the other by making salient certain social factors. In the present study, in line with Mageau and colleagues (2009), an autonomy-supportive environment provided by the coach seemed to maintain the athletes' passion toward the sport, regardless of the type of passion. Additionally, athletes in an autonomy-supportive environment were more likely to maintain a harmonious passion as their predominant passion (Vallerand, 2010). Finally, athletes in a controlling environment were more likely to adopt or maintain an obsessive passion. These results are interesting because they demonstrate that individuals who are already passionate for an activity can reinforce the predominant passion or make the other type of passion salient depending on which type of adults they interact with.

### **General Discussion**

The main purpose of the present research was to test the Passion Transmission Model (PTM). The proposed model posited that harmoniously-passionate significant adults (e.g., teachers, coaches, and parents) are more likely to promote an autonomy-supportive environment while engaging in the activity, whereas obsessively-passionate significant adults are more likely to promote a controlling environment. Additionally, the model posited that autonomy support is essential in the initial transmission of a passion. The model finally posited that autonomy support is the most important variable in the transmission of a harmonious passion, while a controlling environment is more likely to facilitate the transmission of an obsessive

passion. The results of both studies provided support for the PTM. More specifically, in Study 1, results demonstrated that the perceptions of the significant adult's harmonious passion were positively associated with the perceptions of autonomy-supportive behaviors. Conversely, the perceptions of the significant adult's obsessive passion were negatively associated with the perceptions of autonomy-supportive behaviors. The perceptions of autonomy-supportive behaviors were then positively related to both types of passion, but more strongly to harmonious passion. In Study 2, with a dyadic sample, results demonstrated that coaches' harmonious passion was positively related to their autonomy-supportive behaviors, while coaches' obsessive passion was positively related to their controlling behaviors. In turn, these autonomy-supportive and controlling behaviors were then perceived as such by the athletes. The athletes' perceptions of their coaches' autonomy-supportive led to the transmission of both types of passion, but more strongly to harmonious passion, while the athletes' perceptions of their coaches' controlling behaviors led only to the transmission of an obsessive passion in the athletes. Overall, these findings support that significant adults (e.g. parents, teachers, and coaches) with a harmonious passion can transmit their passion through the use of autonomy-supportive behaviors, while significant adults using controlling behaviors are more likely to lead only to the transmission of an obsessive passion. The present findings lead to a number of implications.

A first implication is that the transmission process of a passion between two individuals does seem to take place. Results of both studies empirically demonstrated that significant adults play an important role in the transmission of a passion through their impact they produce on the social environment, thus supporting the PTM. As past research has shown (Deci & Ryan, 1987; Grolnick & Ryan, 1989; Koestner, Ryan, Bernieri, & Holt, 1984; Mageau & Vallerand, 2003), children who engage in an activity in an optimal environment created by significant adults are free to explore the activity, display creativity, and affectively engage themselves in the activity. Therefore, the present results extend those of Mageau and colleagues (2009) by

showing that the significant adults' passion triggers the transmission process. Consequently, the significant adults' type of passion determines the kind of internalization that will take place in the novice identity. Thus, by using a dyadic methodological approach in the present research, the findings of Study 2 extended past research as it was found that the impact of one's passion does not simply take place in the mind of the passionate individual (e.g., the coach) but is also transmitted and even received by those interacting with them as well (e.g., athletes).

A second implication is that some of the processes involved in the transmission of passion were uncovered in the two studies. The first process involved the key role of autonomy-supportive behaviors in the transmission of both types of passion while engaging in the activity. Results of both studies revealed that the significant adult's harmonious passion indirectly predicted the transmission of both types of passion through autonomy-supportive behaviors. Therefore, it seems that significant adults with a harmonious passion are more likely to transmit their passion for an activity than those with an obsessive passion. In line with Lafrenière and colleagues (2011), it seems that harmoniously-passionate significant adults display a more autonomy-supportive style that involves taking the novices' perspective into account, providing the novices with a rationale for tasks, and encouraging self-initiative from novices. Second, results demonstrated that autonomy support was also the key variable in the transmission of a harmonious passion. Novices who developed a harmonious passion reported more perceptions of autonomy-supportive behaviors from significant adults than novices who developed an obsessive passion. These findings were also reported by Mageau and colleagues (2009) across three studies using correlational and short-term longitudinal designs, three different measures of autonomy support, and with novice, intermediate, and expert samples.

Conversely, the third process revealed that significant adults' obsessive passion directly and positively predicts the use of controlling behaviors. Thus, the



results of the present research add to those of Mageau and colleagues (2009), who did not assess controlling behaviors. More specifically, obsessively-passionate significant adults display a more controlling style that involves taking decision by directing every aspects of the environment. Even though Mageau did not specifically measure controlling behaviors, the results of the present research are in line with those of Mageau and colleagues (2009) because they demonstrated that children who focus on particular contingencies during the passionate activity (i.e., activity specialization and parents' activity valuation) were more likely to develop an obsessive passion because these contingencies become additional pressures to engage in the activity. In line with Lafrenière and colleagues (2011), who demonstrated that coaches with an obsessive passion were more likely to use controlling behaviors, it is believed that significant adults' controlling behaviors lead to the transmission of an obsessive passion by teaching children that to obtain social approval they must engage, or worse, excel, in their activity, thus creating self-activity contingencies. The activity then becomes highly important but for self-protective and defensive reasons that are not necessarily coherent with the child's true interests and sense of self (Mageau et al., 2012). This, in turn, sets the stage for experiencing an obsessive passion. However, future research is needed in order to test these assumptions.

A final implication of the present finding is that the same processes were found to take place with individuals who had no prior passion toward a new activity as well as with those who already had a passion toward a sport. These results provide further empirical support for the Dualistic Model of Passion's (see Vallerand, 2010) position on the initial and the on-going development of passion. Specifically, social and personal factors that have some bearing on the internalization process coupled with the valuation process lead to the initial development of passion. Later on, social and personal factors that are relevant for the internalization process remain involved in the on-going development of a particular type of passion. Therefore, as found in Study 2, individuals in a saliently controlling environment were more likely to

express an obsessive passion as the predominant one, while those in a saliently autonomy-supportive environment were more likely to express a predominant harmonious passion.

Some limitations of the present studies need to be considered. First, correlational and cross-sectional designs were used in both studies and therefore causality and direction cannot be inferred from the present research. Although the present findings are in line with past theory and research, future research using experimental designs is needed in order to more firmly determine the role of significant adult's passion in predicting the changes in novices. Second, it should be noted that the significant adult autonomy-supportive and controlling behaviors scales used in the present study were one-dimensional. It is, thus, possible that more careful assessments could provide a better understanding of the role of significant adult autonomy-supportive and controlling behaviors in the passion transmission processes. Indeed, past research (Mageau & Vallerand, 2003; Reinboth, Duda, & Ntoumanis, 2004) has stressed the importance of assessing autonomy-supportive and controlling behaviors from a multidimensional perspective. Consequently, future research is required in order to replicate the present findings with more comprehensive assessments of autonomy-supportive and controlling behaviors such as the Coaches' Controlling Interpersonal Style Scale (Bartholomew, Ntoumanis, & Thøgersen-Ntoumani, 2009). Third, in line with Fredrickson's Broaden-and-Build Theory (2001) and Cardon (2008), affect (or emotional mimicry) may play an important role in the transmission processes of passion. However, affect was not measured in the present studies. Therefore, future research on the transmission of passion should include the role of affect. Finally, even if assessments of both the significant adults' and novices' perspectives were used in Study 2, all measures in both studies were self-report in nature. Consequently, future research is needed in order to replicate the present findings with objective measures such as judges' evaluations.

In conclusion, the present research is the first to present data supporting the passion transmission model from one individual to another. The findings from the present studies suggest that significant adults' type of passion matters with respect to the processes of transmitting a passion. Ironically, even though both harmoniously and obsessively-passionate significant adults are equally devoted to the novice, it seems that harmoniously-passionate significant adults lead to the most adaptive transmission processes. Future research on the processes that may foster harmonious over obsessive passion would therefore appear important from both theoretical and applied reasons.

Table 1.1  
Means, Standard Deviations, and Correlations Involving all Variables of Study 1.

	<i>M</i>	<i>SD</i>	2	3	4	5
Perceptions of the significant adult's harmonious passion (1)	5.67	.90	.24**	.58**	.54**	.13
Perceptions of the significant adult's obsessive passion (2)	3.50	1.50		-.05	.03	.43**
Perceptions of the significant adult's autonomy-supportive behaviors (3)	5.48	.94			.47**	.17*
Novice's harmonious passion (4)	5.63	.83				.12
Novice's obsessive passion (5)	3.09	1.14				

Note. ( $N = 125$ ). \*\*  $p < .01$ , \*  $p < .05$ , †  $p < .10$

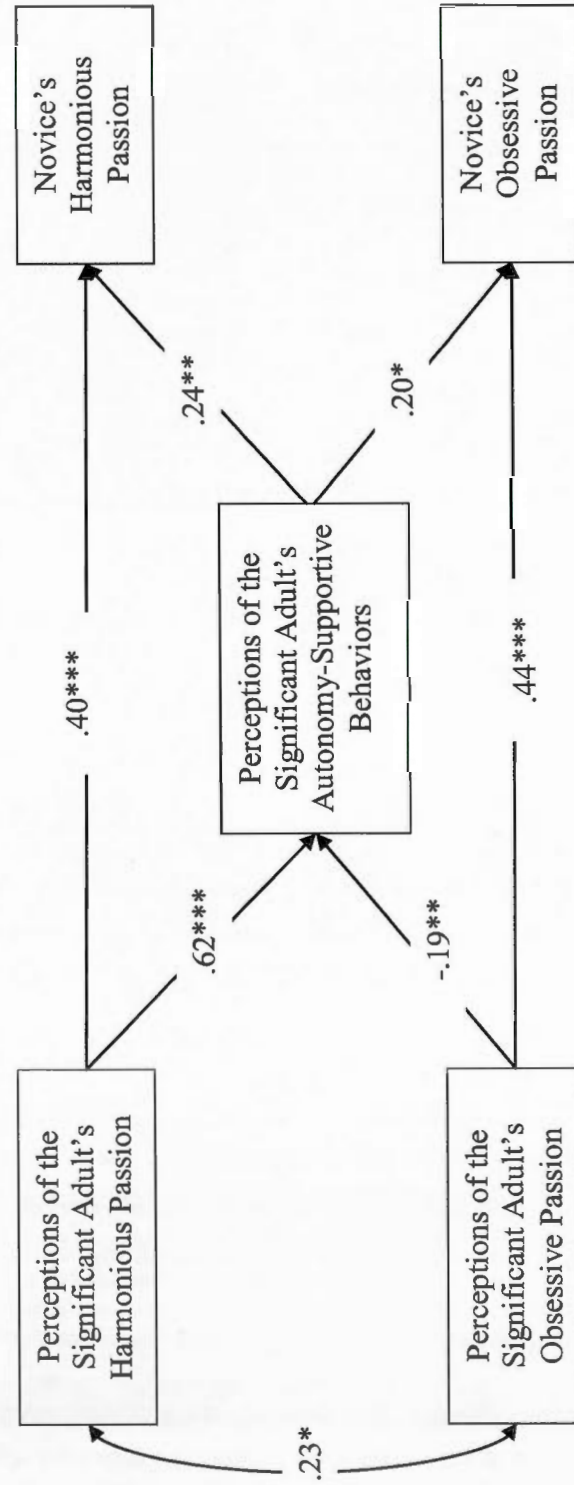


Table 1.2  
Means, Standard Deviations, Alpha Coefficients, and Correlations Involving all Variables of Study 2.

	<i>M</i>	<i>SD</i>	$\alpha$	2	3	4	5	6	7	8
Coaches' harmonious passion (1)	6.09	.68	.78	.47*	.51*	.08	.18 <sup>†</sup>	.01	.09	.05
Coaches' obsessive passion (2)	4.78	1.33	.87		.14	.32*	.07	.36*	.28*	.32*
Coaches' autonomy support (3)	6.16	.66	.71			-.08	.44*	.03	.17 <sup>†</sup>	.12
Coaches' controlling behaviors (4)	3.47	1.12	.87				-.16	.20*	-.02	.01
Athletes' perceptions of coaches' autonomy support (5)	5.96	.80	.93					-.26*	.51*	.29*
Athletes' perceptions of coaches' controlling behaviors (6)	3.63	1.35	.87						-.12	.22*
Athletes' harmonious passion (7)	5.79	.74	.80							.59*
Athletes' obsessive passion (8)	4.75	1.01	.90							

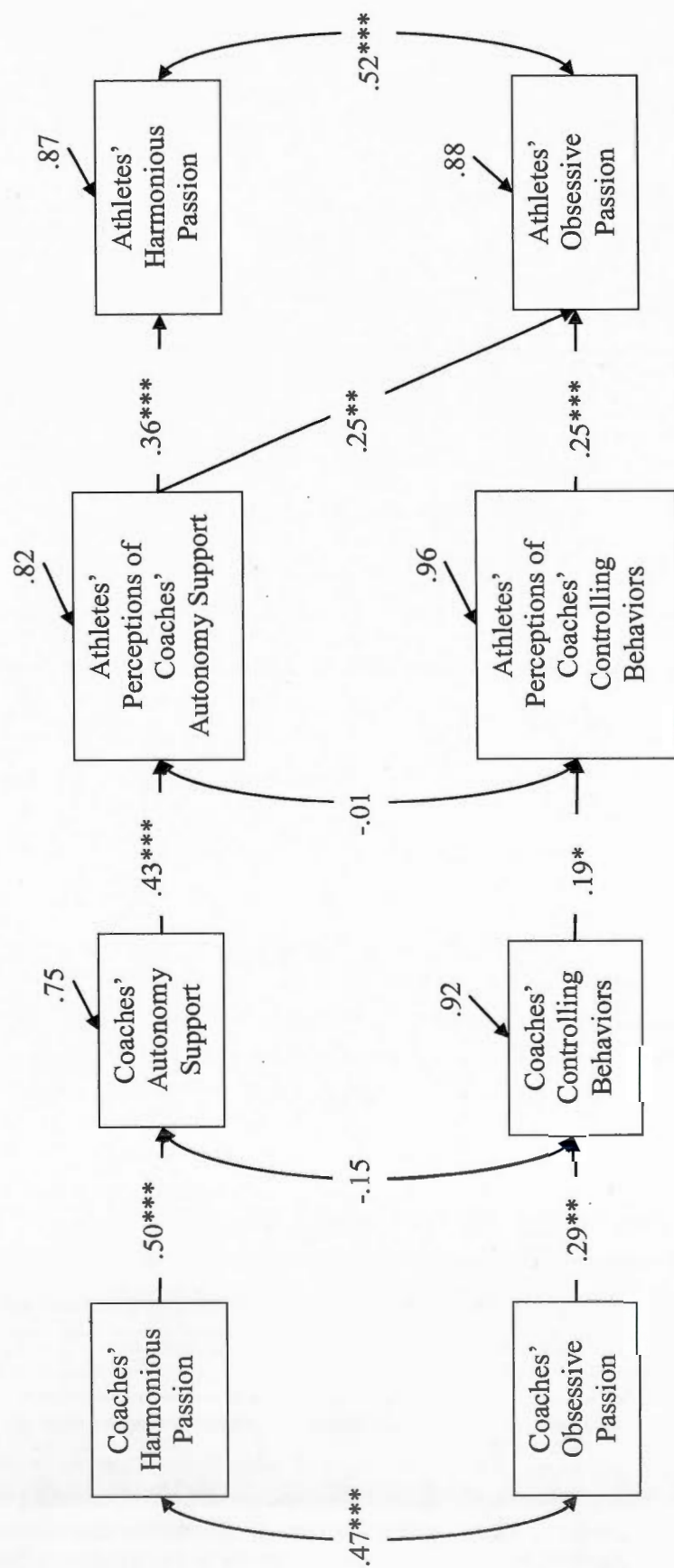
Note. (*N* = 103 dyads). \*  $p < .05$ , <sup>†</sup>  $p < .10$

Figure 1.1



Note.  $* p < .05$ ;  $** p < .01$ ;  $*** p < .001$

Figure 1.2



Note.  $^* p < .05$ ;  $^{**} p < .01$ ;  $^{***} p < .001$





## CHAPITRE II

## ARTICLE 2

On the Transmission of Passion:  
Identifying the Key Mediators

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## RÉSUMÉ EN FRANÇAIS DE L'ARTICLE 2

En lien avec l'article 1 de la présente thèse, le but de l'article 2 était de tester le MTP avec un devis longitudinal et expérimental avec des professeurs et étudiants en psychologie. En plus d'utiliser le soutien à l'autonomie (vs contrôle) comme variable importante dans le processus de transmission d'une passion, l'article 2 de cette thèse intègre le rôle d'émotions positives vécues lors de l'engagement dans l'activité, telle que l'enthousiasme et l'excitation. Le modèle de l'article stipule donc que les enseignants passionnés harmonieusement devraient transmettre leur passion harmonieuse aux étudiants à travers leurs comportements soutenant l'autonomie et l'enthousiasme vécu des étudiants durant l'activité, tandis que les enseignants passionnés de façon obsessionnelle devraient transmettre une passion obsessionnelle aux étudiants à travers leurs comportements contrôlants et l'excitation vécue chez les étudiants.

Dans l'Étude 1, des étudiants en psychologie de première année au niveau collégial ont été choisis parce qu'ils n'avaient aucune expérience en psychologie et donc, par conséquent, ne devaient pas avoir de passion envers la psychologie. L'Étude 1 avait comme objectif de tester le MTP sur une période de trois mois avec des étudiants qui n'avaient pas de passion envers la psychologie. En lien avec Lafrenière et coll. (2011), nous avons postulé que les professeurs avec une passion harmonieuse seraient plus portés à utiliser des comportements soutenant l'autonomie, tandis que les professeurs avec une passion obsessionnelle seraient plus portés à utiliser des comportements contrôlants. De plus, en lien avec Mageau et ses collègues (2009), nous avons postulé que les étudiants qui perçoivent des comportements du professeur soutenant l'autonomie pendant les cours seraient plus portés à développer une passion harmonieuse envers la psychologie, tandis que les étudiants qui perçoivent des comportements contrôlants développeront une passion obsessionnelle. En lien avec la littérature sur l'enthousiasme (Frenzel et coll., 2009) et sur l'excitation

(Wulfert et coll., 2008), nous avons postulé que l'enthousiasme de l'étudiant durant l'activité faciliterait la transmission d'une passion harmonieuse, tandis que l'excitation faciliterait la transmission d'une passion obsessionnelle. Les résultats de l'Étude 1 ont supporté les hypothèses. Dans l'ensemble, la passion harmonieuse chez un professeur semble positivement associée aux perceptions de soutien à l'autonomie, tandis que la passion obsessionnelle semble positivement associée aux perceptions de comportements contrôlants. En retour, ces perceptions de soutien à l'autonomie et de contrôle prédisent respectivement la transmission d'une passion harmonieuse et obsessionnelle chez l'étudiant. De plus, en lien avec les hypothèses, les résultats de l'Étude 1 démontrent que la passion harmonieuse du professeur prédit positivement l'enthousiasme et l'excitation vécus par l'étudiant durant l'activité, tandis que la passion obsessionnelle du professeur prédit positivement l'excitation vécue par l'étudiant. Alors que, l'enthousiasme facilite la transmission d'une passion harmonieuse, l'excitation prédit la transmission d'une passion obsessionnelle (voir Figure 2.1).

Les hypothèses de l'Étude 2 étaient similaires à ceux de l'Étude 1. Cependant, l'Étude 2 utilisait un devis expérimental avec des étudiants déjà passionnés envers la psychologie. Plus précisément, trois conditions expérimentales (un entretien fictif avec un professeur harmonieux, obsessionnel, et non passionné envers la psychologie) ont été créées afin de changer l'environnement dans lequel l'étudiant évolue. D'une part, nous avons postulé que la condition harmonieuse faciliterait la transmission d'une passion harmonieuse en raison du soutien à l'autonomie et de l'enthousiasme vécu. D'autre part, nous avons postulé que la condition obsessionnelle faciliterait la transmission d'une passion obsessionnelle en raison des comportements contrôlants et de l'excitation vécue. Par ailleurs, nous avons postulé que la condition non passionnée ne transmettrait pas de passion envers la psychologie. Finalement, dans l'Étude 2, on présumait que les trois conditions expérimentales mèneraient à des conséquences différentes, telles que la satisfaction des étudiants et leurs intentions de poursuivre une carrière en psychologie. Les résultats de l'Étude 2 ont procuré un soutien supplémentaire aux résultats de l'Étude 1 (voir Tableau 2.2). Comme prévu, les participants de la condition représentant un professeur harmonieux ont rapporté des niveaux plus élevés de passion harmonieuse, de soutien à l'autonomie et d'enthousiasme, ainsi que des niveaux modérés d'excitation. Aussi comme postulés, les participants dans la condition représentant un professeur avec une passion obsessionnelle ont rapporté des niveaux plus élevés de passion obsessionnelle, de comportements contrôlants, ainsi que des niveaux modérés d'excitation. De plus, les participants dans la condition représentant un professeur non passionné ont rapporté des niveaux faibles sur toutes les variables incluses dans les analyses (sauf pour le soutien à l'autonomie). Ces résultats semblent démontrer que les participants qui ont des professeurs avec une passion harmonieuse sont plus susceptibles de percevoir les comportements de leur professeur facilitant la transmission d'une passion harmonieuse. De plus, il semble également que les participants qui ont des professeurs avec une passion obsessionnelle développeraient une passion obsessionnelle, car ils

percevraient les éléments sociaux saillants en lien avec une passion obsessive. Cependant, ce phénomène ne semble pas se produire dans la condition représentant un professeur non passionné et, par conséquent, les participants dans cet environnement ne développeraient pas de passion envers la psychologie. Finalement, les participants de la condition représentant un professeur harmonieux et un professeur avec une passion obsessive ont rapporté des niveaux plus élevés de satisfaction dans l'activité et d'intentions de faire carrière en psychologie comparativement aux participants dans la condition représentant un professeur non passionné.

Les résultats de la présente série d'études se sont avérés cohérents avec nos hypothèses. Spécifiquement, nous avons démontré que la transmission d'une passion harmonieuse se fait par le biais de deux variables clés, soit un professeur soutenant l'autonomie et l'expérience d'enthousiasme durant l'engagement de l'activité, tandis que la transmission d'une passion obsessive se produit par un professeur contrôlant et un niveau modéré d'excitation. De plus, les résultats de l'Étude 2 démontrent à nouveau que la passion peut changer au fil du temps lorsque certains éléments sociaux sont rendus saillants durant la pratique de l'activité, puisque les participants étaient déjà passionnés envers la psychologie.

Pour conclure, ces deux études conduisent à un certain nombre d'implications. Premièrement, les résultats démontrent que la transmission d'une passion entre deux individus est un phénomène pouvant se produire. Deuxièmement, les professeurs jouent un rôle important sur l'environnement d'apprentissage ainsi que sur la relation qu'ils entretiennent avec les étudiants lors du processus de transmission d'une passion. Troisièmement, les résultats soutiennent le rôle du soutien à l'autonomie et des comportements contrôlants dans le processus de transmission. Quatrièmement, de nouveaux médiateurs dans le processus de transmission ont été découverts soit l'enthousiasme et l'excitation. Finalement, notons que les mêmes processus de transmission ont été trouvés auprès d'individus qui n'avaient pas de passion à la base ainsi qu'auprès d'autres individus déjà passionnés envers la psychologie.



### Abstract

In line with the Dualistic Model of Passion (Vallerand et al., 2003), the purpose of the present research was to test a Passion Transmission Model (PTM), where the impact of teachers' type of passion should influence their teaching style, which in turn should facilitate the transmission of a particular type of passion in their students. Specifically, the model of Study 1 posited that the teacher's harmonious passion should be positively associated with the teacher's use of autonomy-supportive behaviors and the students' experiences of enthusiasm and excitement during activity engagement, while the teacher's obsessive passion should be positively associated with the teachers' use of controlling behaviors and the students' experiences of excitement. Consequently, autonomy-supportive behaviors and the students' experiences of enthusiasm should be positively associated with the transmission of a harmonious passion in students at time 2, while controlling behaviors and the students' experiences of excitement should be positively associated with the transmission of an obsessive passion. This model was tested with college students using a three-month longitudinal design. Study 2 sought to replicate the results of Study 1 using three experimental conditions: one representing a harmonious teacher, one with an obsessive teacher, and a teacher with no passion. Additionally, the results of Study 2 showed that students in the two conditions representing a passionate teacher should be more likely to experience satisfaction in the activity as well as future intentions to pursue in that activity. Results of both studies (longitudinal and experimental) confirmed our hypotheses. These results have important implication for theory, research, and interventions on passion.

*Keywords:* Passion, Transmission, Positive Emotions, Autonomy Support, Control

## **On the Transmission of Passion: Identifying the Key Mediators**

As part of the positive psychology movement, Vallerand and his colleagues (2003) have proposed that being passionate toward an activity may contribute to ones' optimal functioning. Recent research on passion has shown the existence of two types of passion, a harmonious passion which is associated with adaptive outcomes and an obsessive passion, which is associated with less adaptive and at times maladaptive consequences (see Vallerand, 2010). Although emerging research in education has looked at the role of passion in outcomes, no research to date has dealt with the transmission of passion between teachers and students. The main purpose of the present paper is to explore this phenomenon.

### **The Dualistic Model of Passion**

The Dualistic Model of Passion (Vallerand, 2008; 2010; Vallerand et al., 2003; Vallerand & Houlfort, 2003; Vallerand & Miquelon, 2007) defines passion "as a strong inclination toward a self-defining activity that one loves, finds important, and invests a substantive amount of time and energy" (Vallerand, 2008, p. 1). This model further proposes the existence of two distinct types of passion, harmonious and obsessive, which can be differentiated in terms of how the passionate activity has been internalized into one's identity. Past research has shown that values and regulations concerning non-interesting activities can be internalized in either an autonomous or a controlled fashion in the person's identity (Deci, Eghrari, Patrick, & Leonen, 1994). Vallerand and colleagues (2003) proposed that these two types of internalization should take place with interesting and loved activity and that these processes should be conducive to harmonious and obsessive passion, respectively.

Harmonious passion refers to a strong desire to engage freely in the activity and results from an autonomous internalization of the activity into the person's

identity. This process occurs when individuals have willingly accepted the activity as important for them without any contingencies attached to it. With harmonious passion, the activity occupies an important but not overwhelming space in one's identity. Activity engagement is personally endorsed and remains under the individual's control. Consequently, harmonious passion for an activity should not bring about conflict with one's other life domains and should allow the person to engage in the passionate activity with an openness that is favorable to optimal experiences (Hodgins & Knee, 2002). Thus, people with a harmonious passion should experience positive outcomes not only during (e.g., positive affect, concentration, flow), but also after activity engagement (e.g., general positive affect, psychological adjustment, etc.).

In contrast, obsessive passion refers to an uncontrollable urge to partake in the activity and results from a controlled internalization of the activity into one's identity. This process originates from intrapersonal and/ or interpersonal pressure either because particular contingencies are attached to the activity such as self-worth (Mageau, Carpentier, & Vallerand, *in press*) or because the sense of excitement derived from activity engagement is uncontrollable. For obsessively-passionate individuals, the activity occupies an important part of the person's identity (Vallerand et al., 2003). Therefore, the highly valued activity is not easily put aside. Individuals with an obsessive passion thus experience an uncontrollable urge to engage in their activity; their passion must run its course as it comes to control them. As a result, individuals with an obsessive passion run the risk of experiencing conflict with other life domains and negative consequences (e.g., negative affect, rumination) during and after engagement in the passionate activity.

A great deal of empirical support has been obtained for the Dualistic Model of Passion (see Vallerand, 2010 for a complete review). In the initial study, Vallerand and colleagues (2003) demonstrated that passionate individuals engaged in their

activity for an average of 8.5 hours per week and had been engaging in that activity for almost 6 years. Moreover, 84% of the 500 participants indicated that they had at least a moderate level of passion in their lives (they scored at least 4 out of 7 on a question asking them if their favorite activity was a « passion » for them). Research from the Vallerand et al. (2003, Study 1) study has provided empirical support for several aspects of the passion conceptualization. First, results from exploratory and confirmatory factor analyses provided strong support for the existence of two constructs corresponding to harmonious and obsessive passion. Subsequent research has supported the bifactor structure validity of the scale in a number of life contexts including sports (Vallerand et al., 2006, Study 1), gambling (Castelda, Mattson, MacKillop, Anderson, & Donovanick, 2007; Rousseau, Vallerand, Ratelle, Mageau, & Provencher, 2002), and work (Houlfort & Vallerand, 2006; Vallerand & Houlfort, 2003). Furthermore, internal consistency analyses supported the reliability of the scale. Finally, results from the Vallerand et al. (2003, Study 1) also revealed that both types of passion were positively associated (partial correlations, controlling for the common variance between the two types of passion) with measures of activity valuation and measures of the activity being perceived as a passion, thereby providing support for the definition of passion. In addition, while both types of passion were seen as being part of one's identity, only obsessive passion was positively related to a measure of conflict with other life activities.

Further empirical support has been obtained for the Dualistic Model of Passion (see Vallerand, 2010; for a review). The two types of passion have been found to lead to different predictions with respect to various outcomes. Harmonious passion is positively related, whereas obsessive passion is either unrelated or negatively related, to psychological adjustment indices (Lafrenière, Vallerand, Donahue, & Lavigne, 2009; Philippe, Vallerand, Andrianarisoa, & Brunel, 2009; Rousseau & Vallerand, 2008; Vallerand et al., 2003, Study 2; Vallerand et al., 2006, Study 3; Vallerand et al., 2007; Vallerand, Mageau et al., 2008, Study 2; Vallerand,



Ntoumanis et al., 2008, Studies 1 and 2) and also positive emotions and flow during activity engagement (Lafrenière, Jowett, Vallerand, Donahue, & Lorimer, 2008, Study 2; Mageau, Vallerand, Rousseau, Ratelle, & Provencher, 2005; Vallerand et al., 2003, Study 1; Vallerand et al., 2006, Study 2). Moreover, past research has shown that obsessive (but not harmonious) passion is related to indicators of rigid persistence in ill-advised activities such as cycling over ice and snow in winter (Vallerand et al., 2003, Study 3) and pursuing one's engagement in activities that have become negative for the person such as pathological gambling (Philippe & Vallerand, 2007; Ratelle et al., 2004; Vallerand et al., 2003, Study 4) and problematic gaming (Lafrenière et al., 2009; Wang & Chiu, 2007).

### **On the Development of Passion**

Vallerand (see Vallerand, 2010 for a review) posits that three processes should influence the initial development of passion toward an activity: activity selection, activity valuation, and the internalization of the activity representation in one's identity. Activity selection refers to the person's preference for the activity over other activities. To the extent that the person feels that such selection reflects the person's true choice and interests and is consonant with one's identity, it should promote the development of passion toward that activity. Activity valuation (or the subjective importance given to the activity by the person) is expected to play an important role in the internalization of the activity in identity. Research has indeed shown that when the object of interest is highly valued and meaningful, one is inclined to internalize the valued object, to make it part of him or herself (Aron, Aron, & Smollan, 1992; Deci et al., 1994). The more important (or valued) the activity, then the more the activity will be internalized in the person's identity, and consequently the more passionate the person will be toward this activity. Thus, activity valuation can be seen as the intensity (or quantity) dimension (the fuel) underlying activity internalization and the development of passion.



It is further proposed that once an interesting activity becomes highly valued, the type of passion that will ensue is determined by the type of internalization that takes place. Therefore, the type of passion that will initially develop or be transmitted depends on how the activity is internalized in the person's identity. Given equally high levels of activity valuation, an autonomous internalization process should lead to a predominant harmonious passion and a controlled internalization process to a predominant obsessive passion. The Dualistic Model of Passion further posits that once a passion for a given activity has initially developed, its development does not stop there as such development is on-going (Vallerand, 2010). Thus, increases and decreases in activity valuation will lead to similar modulation in the intensity of passion. Further, the presence or absence of social and personal factors that pertain to the autonomous versus controlled internalization process will influence the on-going development of passion in a corresponding fashion. Of course, the internalization process is not an all or none process. While the internalization process leads to the initial development of a predominant type of passion, both types of passion are nevertheless present within the individual to different degrees depending on the social and personal factors at play. The fact that both types of passion are internalized in identity makes it possible to facilitate one or the other by making salient certain social or personal factors. Thus, while the predominant type of passion is usually in operation, it is possible to further reinforce the predominant passion or to make the other type of passion operative depending on which type of social or personal factors is made salient.

In a recent study, Mageau and colleagues have been interested in understanding the development of harmonious and obsessive passions for music using autonomy support as the key variable (Mageau et al., 2009, Study 3). In this study, first-year high school students who had never played a musical instrument completed a series of questionnaires early in the term assessing passion toward music and perceived autonomy support from parents and music teachers. By following

participants who were registered in their first music class over the course of their first semester, Mageau and colleagues (2009) identified those who developed a passion for music at the end of the term, and, among those who did, predicted those who developed a harmonious or an obsessive passion. The findings demonstrated that autonomy support from close adults (parents and music teachers) plays two functions in the development process. First, findings demonstrated that students who reported higher levels of parental and teacher autonomy support earlier in the term were more likely to develop a passion, regardless of the type of passion, toward music at the end of the term. Thus, these findings demonstrated that some levels of autonomy support are needed in order to develop a passion. Second, findings showed that perceived autonomy support was more important in the development of a harmonious passion, whereas low levels of autonomy support led to the development of an obsessive passion. Thus, students who experienced higher levels of autonomy support from close adults were more likely to become harmoniously-passionate toward music than students who experienced low levels of autonomy support. Moreover, results demonstrated that lower the levels of autonomy support, the more students developed an obsessive passion for music. Additionally, similar results were found for those who already had a passion (Mageau et al., 2009, Study 1 and 2). In a similar vein, Liu, Chen, and Yao (2011) have demonstrated, in organizational settings, that the team's autonomy support was positively associated with team member's harmonious passion for work.

Other researchers were interested to identify the determinants of autonomy support. Specifically, Roth, Assor, Kanat-Maynon, and Kaplan (2007) have demonstrated that teachers' autonomous motivation for teaching predict the use of autonomy-supportive behaviors and consequently, enhanced the students' autonomous motivation toward learning. In line with Self-Determination Theory (Deci & Ryan, 1985), individuals' autonomous motivation was associated with behaviors that promote an autonomy-supportive style that involves taking the

novices' perspective into account, providing the novices with a rationale for tasks, and encouraging self-initiative from novices. With respect to passion, Lafrenière and colleagues (2011) were interested in the mediating role of the coaches' behaviors in the coach-athlete relationship (Lafrenière, Jowett, Vallerand, & Carbonneau, 2011). They demonstrated that coaches with a predominant harmonious passion were more likely to use autonomy-supportive behaviors, while coaches with a predominant obsessive passion were more likely to use controlling behaviors.

In sum, past research has revealed that adults and parents can do much more than to provide information regarding the value of a given activity, they can also transmit their passion by affecting the environment surrounding the activity. Consequently, an environment promoting high levels of autonomy support (i.e., quality of the social environments that nurture psychological needs; Mageau et al., 2009) should facilitate the transmission of a harmonious passion. Conversely, an environment promoting high controlling demands, such as performance or self-esteem (Mageau et al., in press) should facilitate the transmission of an obsessive passion.

### **The Role of Positive Emotions in the Transmission of Passion**

In line with the literature on positive emotions (Cardon, 2008; Fredrickson, 2001), we believe that positive emotions should also play an important role in the transmission processes of a passion. Many researchers conceptualize affect as the initial response to some event (e.g., Ortony, Clore, & Collins, 1988; Russell & Feldman Barrett, 1999). This affective response further develops into specific emotions when additional cognitive assessments are performed, eliciting behavioral, motivational, physiological, cognitive, and affective reactions (Frijda, 2000). Positive affect is thus a free-floating pleasant feeling state that motivates people to pursue their initiated line of thinking or action (Clore, 1994). In the literature on emotional contagion (Poggi, 2007), positive affect was favored over negative affect for the



following two reasons. First, research has shown that activity engagement has been related to positive affect but not to negative affect (Omodei & Wearing, 1990; Watson, 1988). Second, researchers have suggested that positive affect is more sensitive to daily situational factors (e.g., class) whereas negative affect is more influenced by longer-term personality factors or acute negative events (Clark & Watson, 1988; Diener, Larsen, & Emmons, 1984).

Fredrickson's Broaden-and-Build Theory (2001) posits that the experience of positive affect is conducive to high quality of relationships. This is so because positive affect opens up people's thought-action repertoires and self, leading one to experience the world more fully, thereby facilitating smiles, positive sharing of the activity, connection, and openness toward others that are conducive to positive relationships (see Waugh & Fredrickson, 2006). Consequently, we believed that the experience of positive affect in a relationship should facilitate the transmission of passion. Additionally, Pekrun, Goetz, Titz, and Perry (2002) argued that pleasant emotions such as students' enjoyment lead to a number of positive outcomes including creating attachments to significant others and guide the behavior of groups. Recently, Radel and colleagues (Radel, Sarrazin, Legrain, & Wild, 2010) demonstrated that experiences of positive affect, as well as an autonomy-supportive teaching style of 1<sup>st</sup> generation learners, while teaching a new activity to a 2<sup>nd</sup> generation learner, played a role in the transmission of intrinsic motivation. Thus, we believe that similar processes are involved in the passion transmission model.

In line with the Dualistic Model of Passion, past results have demonstrated that individuals with a harmonious passion are more likely to experience positive emotions during and after activity engagement, while individuals with an obsessive passion are less likely to experience such emotions (Lafrenière, Donahue, & Vallerand, 2008; Mageau et al., 2005; Vallerand et al., 2003, 2006). More specifically, in line with the transmission of passion, Cardon (2008; Cardon, Wincent,



Singh, & Drnovsek, 2009) was the first to propose the role of emotion in the contagion of passion in an organizational setting. Specifically, Cardon (2008) proposed that emotional mimicry is an important variable in the transmission of passion with entrepreneurs. However, Cardon did not empirically test the role of positive emotions in the transmission process of a passion. Moreover, her definition of positive emotions is vague and involves a wide range positive emotions and activation. We believe that certain types of positive emotions may facilitate the transmission of passion over other types of positive emotions with low activation. Recently, enthusiasm has generated a lot of interest in the literature. Enthusiasm represents the degree of enjoyment and pleasure typically experienced in activities (Pekrun, 2006).

Research in educational settings has demonstrated that enthusiasm is one of the main positive emotions that characterize a good teacher (Kunter, Tsai, Klusmann, Brunner, Krauss, & Baumeit, 2008; Shuell, 1996; Witcher, Onwuegbuzie, & Minor, 2001). Additionally, Fenzel and colleagues (Frenzel, Goetz, Lüdtke, Pekrun, & Sutton, 2009) demonstrated that one important mechanism mediating the transmission of enjoyment from teachers to students is the teachers' enthusiasm during classroom instruction. Other studies have shown that teachers who display high levels of enthusiasm to teach seem to exert a positive effect on students' interest and motivation to learn (Brigham, Scruggs, & Mastropieri, 1992; McKinney, Robertson, Gilmore, Ford, & Larkins, 1984; Patrick, Hisley, & Kempler, 2000), an effect sometimes labeled "emotional contagion" (Hsee, Hatfield, & Carlson, 1990). However, research has typically measured the teachers' level of enthusiasm but not the students' one.

Another positive emotion that is getting attention is excitement. More specifically, excitement is the sensation due to the increasing arousal of the nervous system that accompanies the process of being stimulated when the stimulus is strong

enough to pose a challenge or threat and so demand one's active response (Scitovsky, 1981). Wulfert and colleagues (Wulfert, Franco, Williams, Roland, & Maxson, 2008) demonstrated that monetary expectancies are the primary factors creating excitement in gambling. These results may explain why individuals with an obsessive passion for gambling are more likely to develop pathological problems, because the sense of excitement derived from activity engagement becomes uncontrollable (Philippe & Vallerand, 2007). In line with the present research, the results from some studies (Patrick et al., 2000; Ryan & Grolnick, 1986) suggest that a high-energy and dynamic teaching style is an effective mean to mobilize students' interest and to increase excitement toward a new activity. Therefore, in line with the DMP, individuals in highly activated environment may be more likely to engage in the activity because the sense of excitement derived from the activity become uncontrollable, thereby leading to an obsessive passion. In sum, we believe that when enthusiasm and excitement are experienced during activity engagement, each emotion will facilitate the transmission of a particular type of passion.

### **The Present Research: On the Transmission of Passion**

The present research sought to broaden our comprehension on the transmission processes of a passion by testing a Passion Transmission Model (PTM) between teachers and students for the same school subject (i.e., psychology). Specifically, this model posits that the impact of teachers' passion takes place through his or her autonomy-supportive and controlling behaviors, as well as the enthusiasm and excitement created during activity engagement. Thus, the teachers' impact on the environment during activity engagement was expected to facilitate the transmission of a particular type of passion. This model was tested in two studies: one with students who had no prior passion and the other one with already passionate students toward psychology.

In Study 1, students taking psychology courses at the college level were chosen because they had little or no prior experience in psychology and therefore, no passion toward psychology. Study 1's model investigated the role of teachers' passion on their use of autonomy support and controlling behaviors, as well as the enthusiasm and excitement created during activity engagement over a three-month period. In line with past research (Lafrenière et al., 2011; Patrick et al., 2000), harmoniously-passionate teachers were expected to use autonomy-supportive behaviors and create enthusiasm and excitement, while obsessively-passionate teachers would be more likely to use controlling behaviors and create excitement during activity engagement. In turn, in line with Mageau and colleagues (2009), the model posits that autonomy-supportive behaviors would be more likely to promote the transmission of a harmonious passion, while controlling behaviors would be more likely to facilitate the transmission of an obsessive passion.

Moreover, in line with above reasoning, the model posits that the experience of enthusiasm during activity engagement would be more likely to facilitate the transmission of a harmonious passion, while the experience of excitement would be more likely to promote the transmission of an obsessive passion. Results of Study 1 were expected to be replicated in Study 2 by using an experimental design with students who already had a passion toward psychology. More specifically, three experimental conditions representing a teacher with a harmonious, obsessive, or no apparent passion were created in order to vary the social context presented to the participants. Study 2 posited that a harmoniously-passionate teacher would be more likely to transmit a harmonious passion through autonomy-supportive behaviors and enthusiasm, as well as an obsessive passion through excitement, while an obsessively-passionate teacher would be more likely to only transmit an obsessive passion through controlling behaviors and excitement. Finally, Study 2 posited that different outcomes (i.e., satisfaction during activity engagement and future intentions

to pursue a career in psychology) would be reported according to the teacher's type of passion.

### Study 1

Using a three-month longitudinal design with two times of measurement, the goal of Study 1 was to test the PTM with students who had no prior passion toward psychology. Specifically, in line with past research (Lafrenière et al., 2011; Patrick et al., 2000), it was hypothesized that teachers harmoniously-passionate toward psychology would be more likely to promote an autonomy-supportive environment, as well as enhancing students' experience of enthusiasm and excitement. Conversely, it was hypothesized that teachers obsessively-passionate would be more likely to promote a controlling environment and enhance students' experience of excitement. Moreover, it was hypothesized that an autonomy-supportive environment and the experience of enthusiasm would facilitate that transmission of a harmonious passion, while a controlling environment and the experience of excitement would lead to the transmission of an obsessive passion.

### Method

**Participants.** A total of 160 participants (38 males and 122 females) were recruited in various college (cegep) classes of psychology. The average age of participants was 18.5 years ( $SD = 1.50$ ). On average, these participants engaged in their psychology activities for 6 hours per week ( $SD = 2.95$  hours). These participants were relatively new to the subject of psychology: 41.7% ( $N = 68$ ) of them had never been in a psychology course before, while 58.3% ( $N = 95$ ) had been taking one psychology course before. However, no significant differences were found on the model variables between these two subsamples, because psychology remained a new activity for all participants.



**Procedure.** Participation was voluntary. Prior to the study, we obtained permission from the teachers to conduct the study. A consent form was also signed by all participants. Participants were told that the purpose of the study was to learn more about their attitudes and behaviors toward a new discipline (i.e., psychology). The first questionnaire was completed individually at the beginning of the semester (the first or second class of the semester). The second questionnaire was completed three months later at the end of the semester. The second questionnaire was divided into two sections. The first section assessed the student's attitude toward psychology, while the second section assessed the student's perceptions of their teacher's passion, as well as teaching style (i.e., autonomy support vs. control) while engaging in the course. After completing the second questionnaire, participants were debriefed with respect to the specific purposes of the study.

### Measures

In addition to demographic information, the Time 1 questionnaire was composed of scales assessing the student's passion toward psychology while the Time 2 questionnaire was composed of scales assessing the student's perceptions of their teacher's passion for teaching psychology, autonomy support and controlling behaviors, as well as the student's level of enthusiasm, excitement, and passion for psychology. The Passion Scale and the students' perceptions of autonomy support and controlling behaviors scales were scored on a 7-point Likert scale, ranging from 1 (*do not agree at all*) to 7 (*very strongly agree*), while the scale assessing enthusiasm and excitement was score on a 5-point Likert scale, ranging from 1 (*not at all*) to 5 (*extremely*).

**Students' Passion.** The student's passion was measured using the Passion Scale (Vallerand et al., 2003). Both subscales presented good internal consistency over a three-month period (harmonious - Time 1:  $\alpha = .82$ , Time 2:  $\alpha = .80$  and obsessive - Time 1:  $\alpha = .84$ , Time 2:  $\alpha = .85$ ). Items such as "Studying psychology is

in harmony with the other activities of my life” and “I have almost an obsessive feeling for studying psychology” were used to respectively assess harmonious and obsessive passion. Research has provided empirical support for the passion conceptualization. Results from exploratory and confirmatory factor analyses supported the two-factor structure of the Passion Scale (e.g., Castelda et al., 2007; MacKillop, Anderson, Castelda, Mattson, & Donovanick, 2006; Stenseng, 2008; Vallerand et al., 2003, Study 1; Vallerand et al., 2006, Study 1; see Vallerand, 2010, for a review). The Passion Scale has shown high levels of internal consistency, as well as predictive, discriminant, construct, and external evidence of validity (see Vallerand, 2010).

***Students’ Emotions.*** The students’ positive emotions were measured using the PANAS (Watson, Clark, & Tellegen, 1988). In line with the literature, excitement and enthusiasm were identified as the two possible main mediators in the transmission processes. Therefore, additional items were added to the original version of the PANAS in order to measure excitement and enthusiasm. The excitement and the enthusiasm subscales included four items each. Items such as “Usually, in this psychology course, I feel excited (“like having a blast”, “energized”, and “on a high”) were used for the excitement subscale, while the enthusiasm subscale used items like “Usually, in this psychology course, I feel enthusiastic (“motivated”, “dynamic”, and “stimulated”). The internal reliability coefficient for the excitement and enthusiasm subscales were respectively .86 and .82.

***Students’ Perceptions of their Teacher’s Passion toward Psychology.*** The student’s perceptions of their teacher’s passion toward psychology were assessed using a modified version of the Passion Scale (Vallerand et al., 2003). In this scale, items were modified in order to measure the student’s perceptions of their teacher’s passion; items such as “According to you, for your teacher, psychology is in harmony with the other activities of his/her life” and “According to you, your teacher had

almost an obsessive feeling for psychology” were used to respectively assess harmonious ( $\alpha = .83$ ) and obsessive passion ( $\alpha = .86$ ).

***Perceived Autonomy Support.*** Four items adapted from the Perceived Autonomy Support: The Learning Climate Questionnaire (Black, & Deci, 2000; Williams, Wiener, Markakis, Reeve, & Deci, 1994) were used to assess the students’ perceptions of their teachers’ autonomy support. This scale was composed of items such as “During classes, my teacher encourages me to ask questions”. In the present study, the internal reliability coefficient for the four items of the Perceived Autonomy Support: The Learning Climate Questionnaire was .86. The Perceived Autonomy Support: The Learning Climate Questionnaire has been used in several studies and has been found to display high levels of validity and reliability (see Black, & Deci, 2000).

***Perceived Controlling Behaviors.*** Four items based on Mageau and Vallerand (2003) were used to measure the students’ perceptions of their teachers’ controlling behaviors. This scale was composed of items such as “During classes, my teacher controls every aspect of the period”. The internal reliability coefficient for the four items assessing the perceptions of controlling behaviors was .80.

## **Results and Discussion**

Table 2.1 reports the means, standard deviations, and correlations of all study variables. In order to test the proposed model, a path analysis was conducted with LISREL 8 (Jöreskog & Sörborm, 2003). The model was composed of four exogenous variables (student’s perceptions of their teacher’s harmonious and obsessive passion at Time 2, while controlling for the students’ harmonious and obsessive passion at Time 1) and six endogenous variables (students’ perceptions of autonomy support and controlling behaviors, students’ enthusiasm and excitement, and students’ harmonious and obsessive passion at Time 2). The covariance matrix served as the



database for the path analysis and the method of estimation was Maximum Likelihood. Paths were drawn according to the proposed model. In addition, a positive covariance was estimated among all exogenous variables.

Results of the path analysis revealed an excellent fit to the data. The chi-square value was non-significant,  $\chi^2$  (df = 22, n = 160) = 23.90,  $p = .35$ , and other fit indices were excellent: NNFI = .99, CFI = 1.00, RMSEA = .024 [.00; .073], GFI = .97, SRMR = .063, and NFI = .96. As shown in Figure 2.1, all estimated paths were significant at least at  $p < .05$ , except for the paths between both types of passion at Time 1 and Time 2 (harmonious passion,  $p = .06$ ,  $t$ -value = 1.76; obsessive passion,  $p = .08$ ,  $t$ -value = 1.56), as well as the path between the students' perceptions of controlling behaviors and the students' obsessive passion at Time 2 ( $p = .07$ ,  $t$ -value = 1.72). Inspection of the correlation residuals revealed that all were non-significant, indicating that additional paths would not be significant and would not improve the model fits (Kline, 2005). As expected, the findings of the present study supported the PTM.

In sum, the present findings provided further support for the role of passionate teachers in the transmission of passion. Indeed, harmoniously-passionate teachers who use autonomy-supportive behaviors and promote students' enthusiasm are more likely to transmit their harmonious passion to their students. Conversely, obsessively-passionate teachers who use controlling behaviors and promote students' excitement are more likely to transmit their obsessive passion. Thus, the present findings demonstrated that obsessively-passionate teachers facilitate only the transmission of an obsessive passion through controlling behaviors and excitement whereas harmoniously-passionate teachers facilitate the transmission of both types of passion: a harmonious passion through autonomy-supportive behaviors and enthusiasm and an obsessive passion through excitement. The present findings provided preliminary results on the teaching style and the role of positive emotions in the PTM.



## Study 2

The findings of Study 1 lead to a number of implications. The first implication is that the transmission of passion between teachers and students seems to take place. The second implication is that autonomy support (vs. control), enthusiasm, and excitement are some of the transmission processes that would appear to account for the PTM. A final implication pertaining to Study 1 is that the transmission processes were found with individuals who had no prior passion toward psychology. However, is it possible to replicate these findings with individuals who already have a passion? As stipulated by Vallerand (2010), the development of passion is an on-going process in which social factors will influence such process. Moreover, is it possible to experimentally manipulate the teacher's passion so as to influence the transmission processes? Thus, the aim of Study 2 was specifically to address these questions with individuals who are already passionate about their education.

Thus, the first goal of Study 2 was to replicate the results of Study 1 by using an experimental design, while the second goal was to test the PTM with individuals who already have a passion toward psychology. In order to do so, we used experimental manipulation to induce the students' perceptions of their teacher using an excerpt from an interview representing three kinds of hypothetical teachers: a harmoniously-passionate teacher, an obsessively-passionate one, and a teacher with no apparent passion. Undergraduate and graduate psychology students were randomly assigned to one of three conditions. As in Study 1, it was hypothesized that the harmoniously-passionate teacher condition would facilitate the transmission of a harmonious passion through autonomy support and enthusiasm, whereas the obsessively-passionate teacher condition would facilitate to transmission of an obsessive passion through controlling behaviors and excitement.

Specifically, it was hypothesized that students in the condition representing a harmoniously-passionate teacher would report higher levels of perceived autonomy

support than students in the other two conditions. Conversely, it was hypothesized that students in the condition representing an obsessively-passionate teacher would report higher levels of perceived controlled behaviors than students in the other two conditions. Moreover, in line with the results of Study 1, it was expected that students in the condition representing a harmoniously-passionate teacher would report higher levels of enthusiasm than students in the other two conditions, as well as moderate levels of excitement. It was also expected that students in the condition representing an obsessively-passionate teacher would report higher levels of excitement than the students in the non-passionate condition. Finally, it was expected that participants would report different outcomes according to the teacher's type of passion. More specifically, students in the two passionate conditions, regardless of the type of passion, should experience more satisfaction in their studies, as well as increased intentions to pursue a career in psychology than students in the non-passionate condition.

## Method

**Participants.** Participants were 131 students (22 males, 109 females) from the department of psychology at the university level. Undergraduate students represented 62% of the sample, while the remaining represented Ph.D. candidates. These students represented a passionate sample because roughly all of them will go on to the Ph.D. or were already Ph.D. candidates. The mean age of the students was 26.9 years ( $SD = 7.64$  years). On average, students had been studying for 3.57 years ( $SD = 2.67$  years) and had been taking 23 courses in psychology ( $SD = 13.5$  courses). At the time of the study, students were spending on average 27.05 hours ( $SD = 14.01$  hours per week) in activities related to psychology, such as classes, readings, studying, or homework.

**Procedure.** Participation was voluntary. Students were told that the purpose of the study was to examine student's attitudes in a new learning environment. The students signed a consent form before completing the survey. The questionnaires

were completed on a computer and the three experimental conditions were randomly distributed by the computer program. After completing the questionnaire, participants were debriefed as to the purpose of the study.

## Measures

In addition to demographic information, the questionnaire was composed of scales assessing the students' perceptions of the teacher's passion toward psychology, the students' perceptions of the teacher autonomy support and controlling behaviors, the students' enthusiasm and excitement, and the students' passion toward psychology if they were to be supervised by the hypothetical teacher presented in the experimental condition. Moreover, students completed scales assessing their expected levels of satisfaction in their studies in psychology and their future intentions to pursue a career in psychology. The Passion Scale, the students' perceptions of autonomy support and controlling behaviors scales, satisfaction in their studies, and future intentions were scored on a 7-point Likert scale, ranging from 1 (*do not agree at all*) to 7 (*very strongly agree*), while the scales assessing the students' enthusiasm and excitement were scored on a 5-point Likert scale, ranging from 1 (*not at all*) to 5 (*extremely*).

***Experimental Manipulations.*** Participants were randomly assigned to either the condition (i.e., interview) representing Dr. Stove as harmoniously-passionate, obsessively-passionate, or as non-passionate for psychology. Regardless of the experimental conditions, the participants received the same instructions before they started reading the interview. The participants read the following paragraph: "Below you will find the characteristics of a hypothetical professor, clinician and researcher in psychology. It is very important to read this section since you will then be asked to complete items about this teacher, while imagining being one of his/her students. Dr. Stove is a professor of psychology at Harvard University. In an interview, Professor Stove discusses the importance of psychology in his/her life. These are the important

points of this interview.” The three hypothetical interviews were developed in order to capture students’ perceptions, emotions, and future intentions. In the excerpt from the interview, Professor Stove was presented as gender neutral. The first section of the interview below, for harmoniously and obsessively-passionate teacher, referred to the conceptual and operational definition of passion according to Vallerand and colleagues (2003). The second section of the interview for the harmoniously-passionate teacher presents the characteristics of a teacher that loves psychology but at the same time has a well-balanced life because other activities are also part of his/her life. The second section of the interview for the obsessively-passionate teacher presented the characteristics of a teacher that dedicates his/her whole life to psychology, psychology being the only activity in his/her life. For the interview presenting the non-passionate teacher, both sections of the interview presented the characteristics of a teacher who finds psychology interesting, but he/she is not passionate about it.

#### **The Harmoniously-Passionate Teacher:**

1. *According to Professor Stove, the essential qualities of professors in psychology are:*
  - *To love what they do in psychology.*
  - *Give great importance to psychology*
  - *To devote a lot of time to psychology (readings, research, intervention)*
2. *According to Professor Stove, he/she does well in psychology because he/she...*
  - *Likes, even loves, psychology.*
  - *Is fully engaged in psychology.*
  - *Advocates a balanced life even if psychology occupies an important place.*
  - *Is able to make room for something other than psychology when the workday is over.*



**The Obsessively-Passionate Teacher:**

1. *According to Professor Stove, the essential qualities of professors in psychology are:*
  - *To love what they do in psychology.*
  - *Give great importance to psychology.*
  - *To devote a lot of time to psychology (readings, research, intervention).*
2. *According to Professor Stove, he/she does well in psychology because he/she...*
  - *Likes, even loves, psychology.*
  - *Dedicates his/her heart and soul to psychology.*
  - *Devotes his/her life entirely to psychology, because psychology is his/her only priority.*
  - *Thinks about psychology all the time and speaks only of that, even after the workday.*

**The Non-Passionate Teacher:**

1. *According to Professor Stove, the essential qualities of professors in psychology are:*
  - *To make sure to do their job when they want to.*
  - *The neutral attitude toward psychology.*
  - *Be satisfied that the day is over.*
2. *According to Professor Stove, he/she does well in psychology because he/she...*
  - *Finds psychology interesting but nothing more.*
  - *Does the minimum necessary to teach correctly.*
  - *Does not believe that psychology occupies an important place in his/her life.*
  - *Prefers to do something else once the workday is over.*

After reading the excerpt, all participants completed the same questionnaire composed of the various scales described below.

***Students' Perceptions of Dr. Stove's Passion toward Psychology.*** Students' perceptions of Dr. Stove's passion were assessed using the Passion Scale (Vallerand et al., 2003), the same scale used in Study 1. The items were adapted in order to measure the perception of passion in their teacher; items such as "According to you, for Dr. Stove, psychology is in harmony with the other activities of his/her life" and "According to you, Dr. Stove had almost an obsessive feeling for psychology" were used to respectively assess harmonious ( $\alpha = .92$ ) and obsessive ( $\alpha = .94$ ) passion.

***Students' Perceptions of Autonomy Support.*** The students' perceptions of autonomy-supportive behaviors were assessed using four items from the Perceived Autonomy Support: The Learning Climate Questionnaire used in Study 1 (Black, & Deci, 2000; Williams et al., 1994). Items such as "According to you, Dr. Stove gives the opportunities to his/her students to ask questions" were used to measure the students' perceptions of Dr. Stove's autonomy support ( $\alpha = .92$ ).

***Students' Perceptions of Controlling Behaviors.*** The same scale used in Study 1 was used in Study 2. Based on Mageau and Vallerand (2003), four items ( $\alpha = .86$ ) assessing students' perceptions of Dr. Stove controlling behaviors were used (sample item: "According to you, Dr. Stove controls every aspect of the classes/learning.>").

***Emotions.*** Students' positive emotions (i.e., enthusiasm and excitement) were measured with the exact same scales used in Study 1 (Watson et al., 1988), as adapted to them being supervised by Dr. Stove. Items such as "Usually, under the supervision of Dr. Stove, I would feel excited ("like having a blast", "energized", and "on a high") were used for the excitement subscale ( $\alpha = .91$ ), while the enthusiasm subscale

used items like “Usually, under the supervision of Dr. Stove, I would feel enthusiastic (“motivated”, “dynamic”, and “stimulated” ( $\alpha = .93$ )).

***Satisfaction with their studies.*** Students’ satisfaction for their future studies with the Dr. Stove was assessed using a French version of Diener’s Satisfaction with Life Scale (1985, see Blais, Vallerand, Pelletier, & Brière, 1889). Thus, the five-item original scale was modified to measure the perceptions of satisfaction under the supervision of Dr. Stove (ex., “According to you, with Dr. Stove, the conditions in which I would study would be excellent”). This scale presented a good internal reliability coefficient ( $\alpha = .95$ ).

***Future Intentions.*** This scale was developed in order to measure the students’ future intentions to pursue their studies in psychology if Dr. Stove was their supervisor. More specifically, this scale included only one item measuring the students’ future intentions to have a career in psychology under the supervision of Dr. Stove. The item was “According to you, under the supervision of Dr. Stove, I would intend to pursue a career in psychology”.

***Student’s Passion toward Psychology.*** At the end of the questionnaire, students also completed the Passion Scale (Vallerand et al., 2003) while visualizing that their studies were under the supervision of Dr. Stove. Therefore, they completed items such as “Under the supervision of Dr. Stove, my studies in psychology would be in harmony with other areas of my life” and “Under the supervision of Dr. Stove, I would have almost an obsessive feeling for psychology” to assess harmonious ( $\alpha = .89$ ) and obsessive ( $\alpha = .81$ ) passion respectively. Additionally, the Passion Scale also assesses the four passion criteria (i.e., activity valuation, time investment, love for the activity, and identity; Vallerand et al., 2003). These items were used to determine the students’ level of passion after the manipulation.

## **Results and Discussion**

**Preliminary Analyses.** No missing values were found in the analyses. Inspection of the skewness indices for all variables proved to be normal (values ranged from -.96 to 0.18). Data screening revealed no value higher than three standard deviations from the mean. Additionally, in order to screen for multivariate outliers, Mahalanobis distance values were computed for all participants. No participant out of the 131 exceeded the critical chi-square value at the  $p = .001$  level. Gender and age were excluded from the analyses below, because preliminary analyses produced no effects involving these variables. Means and standard deviations, for all measures, are presented in Table 2.2.

**Manipulation Check.** To confirm that the three experimental conditions influenced the transmission of passion as intended, an ANOVA on the students' perceptions of Dr. Stove's passion criteria among the passionate (i.e., harmonious and obsessive condition combined) and the non-passionate conditions was conducted. Using the four passion criteria, results revealed a significant condition main effect,  $F(1, 129) = 827.76, p < .0001, \eta^2 = .93$ . Results indicated that the students' perceptions of Dr. Stove's passion criteria were significantly higher in the conditions representing Dr. Stove as passionate ( $M = 6.51$  and  $M = 6.60$ ; respectively for harmonious and obsessive condition) than in the non-passionate condition ( $M = 2.59$ ). Therefore, these results indicated that the students in the passionate conditions (harmonious and obsessive) perceived Dr. Stove as being significantly more passionate than in the non-passionate condition.

Moreover, using the students' perceptions of Dr. Stove harmonious passion, results revealed a significant condition main effect,  $F(1, 128) = 42.43, p < .0001, \eta^2 = .63$ . Results indicated that the students in the harmoniously-passionate ( $M = 5.81$ ) condition perceived Dr. Stove has more harmoniously-passionate than the other two conditions ( $M_s < 3.43$ ). Similarly, using the students' perceptions of Dr. Stove obsessive passion, results revealed a significant condition main effect,  $F(1, 128) =$



138.12,  $p < .0001$ ,  $\eta^2 = .83$ . Results indicated that the students in the obsessively-passionate condition perceived Dr. Stove has more obsessively-passionate ( $M = 5.08$ ) than the other two conditions ( $M_s < 2.36$ ).

**Main Analyses.** A MANOVA on the students' perceptions of autonomy support and controlling behaviors, enthusiasm and excitement, satisfaction in the activity, future intentions in the activity, and harmonious and obsessive passion among the three experimental conditions was conducted. Results revealed a significant condition main effect,  $F(2, 126) = 9.85$ ,  $p < .001$ . Univariate effects on each of these variables are presented below.

**Students' Passion.** Analyses revealed a significant condition main effect on the students' harmonious,  $F(2, 126) = 8.21$ ,  $p < .001$ ,  $\eta^2 = .33$  and obsessive passion,  $F(2, 126) = 13.86$ ,  $p = .004$ ,  $\eta^2 = .42$ . On the one hand, planned contrasts indicated that the students' harmonious passion was significantly higher in the harmonious condition ( $M = 5.19$ ) than in the other two conditions. The obsessive ( $M = 4.38$ ) and non-passionate ( $M = 3.99$ ) conditions did not differ significantly. On the other hand, contrasts indicated that the students' obsessive passion was significantly higher in the obsessive condition ( $M = 3.57$ ) than the other two conditions. The harmonious ( $M = 2.52$ ) and non-passionate ( $M = 2.08$ ) conditions did not differ significantly.

**Perceptions of Autonomy Support and Controlling Behaviors.** Further analyses revealed a significant condition main effect on the students' perceptions of autonomy support,  $F(2, 126) = 12.21$ ,  $p < .001$ ,  $\eta^2 = .40$  and controlling behaviors,  $F(2, 126) = 41.22$ ,  $p < .001$ ,  $\eta^2 = .62$ . On the one hand, planned contrasts indicated that the students' perceptions of autonomy support was significantly higher in the harmonious condition ( $M = 4.73$ ) than the other two conditions. The obsessive ( $M = 3.44$ ) and non-passionate ( $M = 3.53$ ) conditions did not differ significantly. On the

other hand, planned contrasts indicated that the students' perceptions of controlling behaviors were significantly higher in the obsessive condition ( $M = 5.02$ ) than the other two conditions. The harmonious ( $M = 3.67$ ) and non-passionate ( $M = 3.14$ ) conditions did not differ significantly.

**Students' Excitement and Enthusiasm.** Analyses revealed a significant condition main effect on students' excitement,  $F(2, 126) = 30.54, p < .001, \eta^2 = .57$  and enthusiasm,  $F(2, 126) = 40.77, p < .001, \eta^2 = .62$ . Planned contrasts indicated that the students reported significantly higher level of enthusiasm in the harmonious condition ( $M = 4.12$ ) than in the other two conditions. Moreover, contrasts indicated that the students' enthusiasm was also significantly higher in the obsessive condition ( $M = 3.64$ ) than in the non-passionate condition ( $M = 2.47$ ). For excitement, planned contrasts indicated that the students' excitement was significantly higher in the harmonious ( $M = 3.21$ ) and obsessive conditions ( $M = 3.04$ ) than in the non-passionate condition ( $M = 1.81$ ). The harmonious and obsessive conditions did not differ significantly.

**Students' Expected Satisfaction and Future Intentions.** Finally, analyses revealed a significant condition main effect on the students' satisfaction in their studies,  $F(2, 126) = 18.09, p < .001, \eta^2 = .47$  and future intentions,  $F(2, 126) = 5.65, p = .004, \eta^2 = .28$ . Planned contrasts indicated that the students' expected satisfaction was significantly higher in the harmonious condition ( $M = 5.17$ ) than the two other conditions. Moreover, contrasts indicated that the students' satisfaction was significantly higher in the obsessive condition ( $M = 3.98$ ) than in the non-passionate condition ( $M = 3.14$ ). For the students' future intentions, planned contrasts indicated that students' reported significantly higher future intentions in both the harmonious ( $M = 5.78$ ) and obsessive ( $M = 5.39$ ) condition than in the non-passionate condition

( $M = 4.49$ ). No significant differences were found between the harmonious and obsessive conditions.

As presented in Table 2.2, participants in the condition representing a harmoniously-passionate teacher reported higher levels of harmonious passion, perceived autonomy support, enthusiasm, satisfaction in the activity, and future intentions to do a career in psychology than participants in the other two conditions. Moreover, in line with our hypothesis, students in the harmonious condition also reported moderate levels of excitement. As expected, participants in the obsessively-passionate teacher condition reported higher levels of obsessive passion, as well as perceived controlling behaviors than participants in the other two conditions. Additionally, participants in the obsessively-passionate teacher condition reported moderate levels of enthusiasm and excitement, satisfaction in the activity, and future intentions to do a career in psychology. Finally, participants in the non-passionate teacher condition reported lower levels on all variables (except for perceived autonomy support) than the participants in the other two conditions. It would thus appear that harmoniously-passionate teachers are more likely to facilitate the transmission of a harmonious passion to their students through their use of autonomy-supportive behaviors and students' experiences of enthusiasm. It would also appear that obsessively-passionate teachers are more likely to facilitate the transmission of an obsessive passion to their students through their use of controlling behaviors and students' experiences of excitement. Finally, it would appear that non-passionate teachers are less likely to create an optimal environment that facilitates the transmission of a passion. Therefore, students in such a learning environment would be less likely to develop a passion toward that school subject or activity.

### **General Discussion**

The purpose of the present research was to test the PTM between passionate teachers and their students for a particular school subject. First, the PTM posited that

harmoniously-passionate teachers are more likely to use autonomy-supportive behaviors, as well as promoting enthusiasm and excitement, whereas obsessively-passionate teachers are more likely to use controlling behaviors and promoting excitement during activity engagement. Second, the PTM posited that in order to initiate the transmission of passion (either harmoniously or obsessively) between two individuals, students need to perceive the environment (i.e., autonomy support, controlling behavior, experience of positive emotions) created by the passionate teacher during the activity. Finally, the PTM was tested with two populations, one with students without a passion for a new school subject (Study 1) and the other with already passionate students for a school subject (Study 2). The results demonstrated that perceptions of autonomy support were more likely to facilitate the transmission of a harmonious passion, while perceptions of controlling behaviors were more likely to promote the transmission of an obsessive passion. Additionally, the results of Study 1 revealed that students' experiences of enthusiasm were more likely to facilitate the transmission of harmonious passion, while the students' experiences of excitement were more likely to lead to the transmission of obsessive passion. Results from both studies supported the PTM. Furthermore, Study 2 demonstrated that outcomes differed according to the manipulation conditions. Students in both passionate conditions, regardless of the types of passion, were more likely to be satisfied in their studies and to intend to pursue a career in the activity than the students learning in an environment without passion. The present findings lead to a number of implications.

A first implication of the present findings is that the transmission of passion between teachers and students seems to take place. Indeed, the present findings extend past writings (see Cardon, 2008) by empirically demonstrating the process of the transmission of passion with the Dualistic Model of Passion (Vallerand et al., 2003). As demonstrated in both studies, in order to have passionate novice (either harmoniously or obsessively), passionate significant adults originally need to promote



an environment that will facilitate the transmission of passion in the novices. As demonstrated in the present research, passionate teachers influenced the passion of their students through their teaching style and experiences of positive emotions during activity engagement. As past research has shown (Deci & Ryan, 1987; Grolnick & Ryan, 1989; Koestner, Ryan, Bernieri, & Holt, 1984; Mageau & Vallerand, 2003; Pelletier & Vallerand, 1996), children who engage in an activity in an optimal environment (i.e., autonomy-supportive) are free to explore the activity, display creativity, and experience positive affective outcomes. As demonstrated in the present findings, students seem able to perceive their teacher's passion through their behaviors. In fact, in both studies, students' perceptions of their teachers harmonious passion was positively associated with perceptions of autonomy support, enthusiasm, and excitement, while the students' perceptions of their teachers obsessive passion was positively associated with perceptions of controlling behaviors and excitement. Consequently, we believe that with time students will internalize the activity in their identity as either a harmonious or an obsessive passion. However, additional research is needed in order to assess the role of identity in the transmission of passion.

A second implication is that mediating variables such as autonomy-supportive and controlling behaviors play a key role in the PTM. First, the present results are in line with Lafrenière and colleague (2011), who demonstrated that harmoniously-passionate coaches display a more autonomy-supportive, whereas obsessively-passionate coaches display a more controlling style. In the present research, harmoniously-passionate individuals were more likely to promote an autonomy-supportive environment that involves taking their novices' perspectives or comments into account, providing their novices with a rationale, and encouraging self-initiatives from novices. Conversely, results revealed that obsessively-passionate individuals were more likely to promote a controlling environment that involves taking decision for their students by directing every aspect of the classes, providing low flexibility and rigid conditions to the students during tasks, and encouraging the students to

meet the teacher's expectations. Consequently, autonomy-supportive and controlling environments were more likely to facilitate the transmission of a harmonious and obsessive passion in the novices, respectively. Second, the present results revealed that harmoniously-passionate teachers transmit a harmonious passion to their students through autonomy-supportive behaviors. Moreover, in both studies, results demonstrated that autonomy support consistently distinguished between the transmission of a harmonious passion over an obsessive one. In line with previous findings on the development of passion, Mageau and colleagues (2009) demonstrated that individuals who focus on particular contingencies during the passionate activity (i.e., activity specialization and parents' activity valuation) were more likely to develop an obsessive passion because these contingencies become additional pressures to engage in the activity. Therefore, it seems that teachers' controlling behaviors lead to obsessive passion by teaching students that to obtain social approval they must engage, or worse, excel, in their activity, thus creating self-activity contingencies. The activity becomes highly important for oneself but for self-protective and defensive reasons that are not necessarily coherent with the student's true desires and sense of self (Mageau et al., in press). This in turn sets the stage for transmitting an obsessive passion.

A third implication is that the experiences of enthusiasm and excitement play an important role in the PTM. Fredrickson's Broaden-and-Build Theory (2001) posits that the experience of positive affect is conducive to high quality of relationships. This is so because positive affect opens up people's thought-action repertoires and self, leading one to experience the world more fully, thereby facilitating smiles, positive sharing of the activity, connection, and openness toward others that are conducive to positive relationships (see Waugh & Fredrickson, 2006). In line with Fredrickson's theory, Fenzel and colleagues (2009) demonstrated that the most important variable mediating the transmission of enjoyment from teachers to students is teachers' enthusiasm during class. The present results are in line with those of

Fenzel because they demonstrate that experiences of enthusiasm, as well as excitement during the activity engagement seem to play an important role in the PTM. As demonstrated in Study 2, results revealed that interacting with a harmoniously-passionate teacher was positively associated with high and moderate levels of enthusiasm and excitement, respectively, while interacting with an obsessively-passionate teacher was only positively associated with moderate levels of excitement. In turn, the experience of enthusiasm positively predicted students' harmonious passion, while the experience of excitement positively predicted students' obsessive passion. Thus, obsessively-passionate teachers seem to transmit their passion through excitement, while it appears that harmoniously-passionate teachers influence the transmission of both types of passion through their impact on students' enthusiasm and excitement. Overall, these results are in line with past studies that demonstrated that individuals with an obsessive passion are more likely to seek out excitement (i.e., gambling), while individuals with a harmonious passion are more likely to search for other positive emotions, such as enthusiasm (Lafrenière, Donahue, & Vallerand, 2008; Mageau et al., 2005; Vallerand et al., 2003; Vallerand et al., 2006). These are interesting results because they demonstrate that different types of positive emotions can lead to different types of passion through the transmission process. However, future research is needed in order to empirically replicate those findings.

A final implication pertaining to the transmission of passion is that the same processes were found with those who had no prior passion toward a new school subject (psychology) as well as with individuals who already had a passion toward psychology. These results provide further empirical support for Vallerand's (2010) position on the development of passion. Specifically, Vallerand (2010) posits that social and personal factors that have some bearing on the internalization process coupled with the valuation process lead to the initial development of passion. Later on, social and personal factors that are relevant for the internalization process remain



involved in the on-going development or transmission of a particular type of passion because both types of passion are present within the individual to different degrees (Vallerand, 2010). The present findings demonstrated that it is possible to experimentally manipulate the environment in which the teacher's passion can influence the transmission processes. Therefore, as found in Study 2, students in a salient controlling environment were more likely to express an obsessive passion as the predominant one, while students in a salient autonomy-supportive environment were more likely to express a predominant harmonious passion.

Some limitations should be kept in mind when interpreting the current findings. First, the correlational design used in Study 1 does not allow us to infer causal inferences. Nevertheless, the results of Study 1 were replicated in Study 2 using an experimental design. However, the PTM between teachers and students should be experimentally measured with students who have no prior passion for the activity in order to clearly establish the directionality of the effects. Such was not the case in Study 2. Second, all measures in this study were self-report in nature by the students (i.e., perceived teachers' passion, perceived autonomy support and controlling behaviors). Consequently, future research is needed in order to replicate the present findings with informant reports (e.g., teachers, parents) or external judges' evaluations of one's levels of harmonious and obsessive passion and objective assessments of autonomy support or control or positive emotions. Finally, the participants in both studies were relatively homogeneous and it would thus appear important to replicate the present findings with other populations or activities.

In conclusion, the present research underlines the teachers' role on the transmission of passion. With respect to passion, the present research highlights the importance of key variables and processes that facilitate the transmission of passion between teachers and students. Ironically, even though both harmoniously and obsessively-passionate teachers are equally devoted to their students, it seems that



harmoniously-passionate teachers lead to the most adaptive transmission processes. However, future research is still needed in order to explore in depth the transmission of passion.



Table 2.1

Means, Standard Deviations, and Correlations Involving all Variables from Study 1 (N = 160)

	M	SD	2	3	4	5	6	7	8	9	10
Students' (Ss') harmonious passion (HP) – Time 1 (1)	5.12	.94	.53**	.19*	-.04	.29**	.08	.26**	.24**	.26**	.10
Ss' obsessive passion (OP) – Time 1 (2)	2.57	1.18		.12	.16*	.16*	.10	.12	.20*	.15	.25**
Ss' perceptions of teachers HP – Time 2 (3)	5.94	.96			.10	.45**	-.03	.36**	.27**	.34**	.06
Ss' perceptions of teachers OP – Time 2 (4)	2.77	1.47				.02	.41**	.07	.18*	.06	.56**
Ss' perceptions of autonomy support – Time 2 (5)	5.60	1.11					-.01	.49**	.33**	.39**	.12
Ss' perception of controlling behaviors – Time 2 (6)	3.85	1.43						.06	.13	.08	.35**
Ss' enthusiasm – Time 2 (7)	4.08	.68							.73**	.40**	.26**
Ss' excitement – Time 2 (8)	3.32	.93								.34**	.35**
Ss' HP – Time 2 (9)	5.88	.80									.21**
Ss' OP – Time 2 (10)	2.57	1.52									

Note. Variables 1 and 2 were collected at the beginning of the semester, while variables 3 to 10 were collected at the end.

\*  $p < .05$ , \*\*  $p < .01$

Table 2.2  
Means and Standard Deviations Involving all Variables from Study 2 (N = 131)

	Harmonious Condition		Obsessive Condition		Non-Passionate Condition	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Students' (Ss') Perception of Dr. Stove's Passion	6.51	.71	6.60	.63	2.59 <sup>b</sup>	.83
Criteria						
Ss' Perception of Dr. Stove's Harmonious Passion	5.81 <sup>b</sup>	1.18	3.42	1.47	3.39	1.28
Ss' Perception of Dr. Stove's Obsessive Passion	2.35 <sup>b</sup>	1.24	5.08 <sup>b</sup>	1.34	1.36 <sup>b</sup>	.44
Ss' Harmonious passion	5.19 <sup>a</sup>	1.11	4.38	1.36	3.99	1.32
Ss' Obsessive passion	2.52	1.34	3.57 <sup>a</sup>	1.60	2.08	1.11
Ss' Perceptions of autonomy support	4.73 <sup>b</sup>	1.01	3.44	1.37	3.53	1.41
Ss' Perceptions of controlling behaviors	3.67	1.05	5.01 <sup>b</sup>	1.41	3.14	1.25
Ss' Enthusiasm	4.12 <sup>d</sup>	.63	3.64 <sup>d</sup>	.87	2.47 <sup>d</sup>	.86
Ss' Excitement	3.21	.79	3.04	.94	1.81 <sup>b</sup>	.77
Ss' Satisfaction in their Studies	5.17 <sup>d</sup>	1.14	3.97 <sup>d</sup>	1.49	3.14 <sup>d</sup>	1.63
Ss' Future Intentions to Pursue a Career in Psychology	5.78	1.55	5.39	1.77	4.49 <sup>c</sup>	1.73

Note.  $M^a$  = this condition is significantly different at .01 from the other two conditions; the other two conditions are not significantly different

$M^b$  = this condition is significantly different at .001 from the other two conditions; the other two conditions are not significantly different

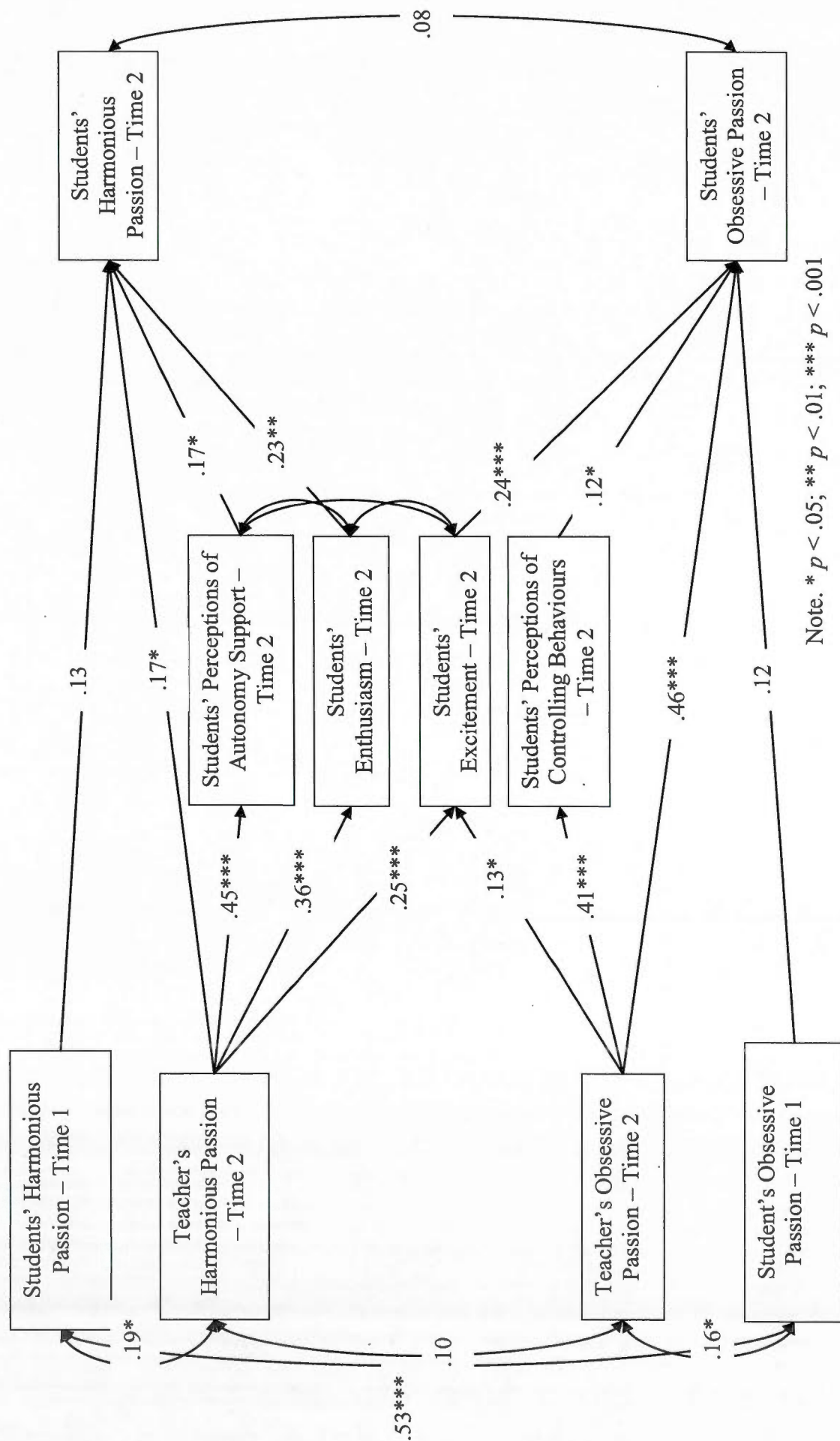


$M^c$  = this condition is significantly different at .05 from the other two conditions; the other two conditions are not significantly different

$M^d$  = all conditions are significantly different at .05

All scales were scored on a 7-point Likert scale, while enthusiasm and excitement were scored on a 5-point Likert scale.

Figure 2.1



## CHAPITRE III

### GENERAL DISCUSSION

This final chapter highlights the scientific contribution of the present thesis. It is composed of four sections. The first section discusses the theoretical implications of the present series of studies. The second section discusses the various limitations related to the studies. The third section suggests future research directions in line with the transmission of passion while the last section consists of a brief conclusion.

#### THEORETICAL IMPLICATIONS

##### **On the Transmission of Passion**

Overall, the PTM proposes that the impact of significant adults' passion takes place through their autonomy-supportive behaviors during activity engagement. Thus, the significant adults' impact on the environment during activity engagement should facilitate the transmission of a particular type of passion. The results of the present thesis supported this aspect of the PTM. Specifically, in Article 1 - Study 1, results demonstrated that harmoniously-passionate significant adults positively predicted their use of autonomy-supportive behaviors, while obsessively-passionate significant adults negatively predicted such behaviors. In turn, results showed that autonomy support was essential in the transmission of both types of passion with individuals who had no prior passion toward an activity. This model was replicated in Study 2 of the first article with individuals who were already passionate for an activity. As

expected, coaches' harmonious passion positively predicted their use of autonomy-supportive behaviors, whereas obsessively-passionate coaches positively predicted their use of controlling behaviors. In turn, as in Study 1, findings demonstrated that the athletes' perceptions of their coaches' autonomy-supportive behaviors predicted the transmission of both types of passion, while athletes' perceptions of their coaches' controlling behaviors only predicted the transmission of an obsessive passion.

The second article of the present thesis builds on the proposed model of the first article and posits that the impact of teachers' passion takes place not only through his or her autonomy-supportive and controlling behaviors, but also through the enthusiasm and excitement created during activity engagement. Specifically, as in the first article, Study 1 of the second article demonstrated that harmoniously-passionate teachers were more likely to use autonomy-supportive behaviors, whereas obsessively-passionate teachers were more likely to use controlling behaviors. Additionally, results showed that harmoniously-passionate teachers were more likely to create an environment in which enthusiasm and excitement were experienced during activity engagement, while obsessively-passionate teachers were more likely to create an environment in which excitement was experienced. Consequently, autonomy-supportive behaviors and the experience of enthusiasm were more likely to facilitate the transmission of a harmonious passion, while controlling behaviors and the experience of excitement were more likely to promote the transmission of an obsessive passion. Finally, in Article 2 - Study 2, we experimentally manipulated the environment in which the teacher's passion can influence the transmission process. As expected, results demonstrated that participants in the condition representing a harmoniously-passionate teacher reported higher levels of harmonious passion, perceived autonomy support, enthusiasm, satisfaction in the activity, and future intentions to do a career in psychology than participants in the other two conditions. Moreover, in line with our hypothesis, students in the harmonious condition also



reported moderate levels of excitement. Participants in the obsessively-passionate teacher condition reported higher levels of obsessive passion and perceived higher levels of controlling behaviors than participants in the other two conditions. Moreover, participants in the obsessively-passionate teacher condition reported moderate levels of enthusiasm and excitement, satisfaction in the activity, as well as higher levels of future intentions to do a career in psychology than participants in the non-passionate condition.

The findings of the present four studies presented in this thesis suggest that the transmission of passion between two individuals seems to take place. Indeed, the present findings extend past research on the impact that significant individuals can have on the transmission of passion. In line with Social Learning Theory (Bandura, 1973) and Social Contagion Theory, the PTM posited that in order to initiate the transmission of passion (either harmoniously or obsessively) between two individuals, the passionate significant adult need to create an environment (i.e., autonomy support, controlling behavior, or experiences of positive emotions) that will facilitate the transmission process. Additionally, novices need to perceive this environment created by the significant adult during activity engagement.

According to Bandura (1973), two mechanisms are needed for a novice in order to replicate the significant adult's behaviors. First, new behaviors are learned and stored in the novice's memory and can be subsequently repeated in a similar situation. This mechanism is well represented in Wild and colleagues' work (1992; 1997; 2002; Radel et al., 2010). More specifically, Wild (1992) showed that students who perceive their teacher as intrinsically motivated are more likely to enjoy the lesson and be intrinsically interested in learning new piano skills than students who perceive their teacher as extrinsically motivated. This mechanism was also reported recently by Radel and colleagues (2011) who demonstrated that the experience of positive emotions, such as enthusiasm, and the autonomy-supportive teaching style of

1<sup>st</sup> generation learners, while teaching a new activity to a 2<sup>nd</sup> generation learner, played a role in the transmission of intrinsic motivation. In line with the present thesis, the results of Study 2 (Article 1) also demonstrated that the first mechanism illustrated in Bandura's Social Learning Theory was involved in the transmission processes. More specifically, on the one hand, harmoniously and obsessively-passionate coaches reported using autonomy-supportive and controlling behaviors during activity engagement, respectively. On the other hand, athletes' perceptions of their coaches' autonomy support played a strong mediating role in the transmission of a harmonious passion and a moderate role in the transmission of an obsessive passion, while the athletes' perceptions of their coaches' controlling behaviors only predicted the transmission of an obsessive passion.

The second mechanism stipulates that these new behaviors are more likely to be repeated if they are followed by a reward or the absence of punishment. In the present studies, the second mechanism was not empirically assessed in the four studies; however, novices who experienced positive emotions during the activity are in a sense rewarded by the fun and enjoyment associated with activity engagement. Thus, novices are more likely to repeat the significant adult's behaviors if they experience positive outcomes. Future research is needed in order to test these above assumptions.

In sum, the results of four studies presented in this thesis provide support for our position on the transmission of passion. Specifically, passionate individuals have the potential to influence the way others think, feel, act, and live. These passionate people might even transmit their passion for their beloved activity through their direct impact on us or on the environment within which the activity is engaged in.

### **Autonomy Support and Control in the Transmission of Passion**

An important process in determining if one will become passionate toward an activity pertains to the role of autonomy support. First, in line with Lafrenière et al., (2011), results demonstrated that harmoniously-passionate significant adults were more likely to use autonomy-supportive behaviors during activity engagement. Second, in line with Mageau and colleagues (2009), the results of the present thesis also demonstrated that an autonomy-supportive environment is needed in order to transmit passion, regardless of the type of passion. Specifically, results of all four studies demonstrated that autonomy support seems essential in the transmission of passion. As past research has shown (Deci & Ryan, 1987; Grolnick & Ryan, 1989; Koestner et al., 1984; Mageau & Vallerand, 2003), adults who support children's autonomy create optimal conditions of activity engagement where children are free to explore the activity, display creativity, and experience positive affective outcomes. In line with Self-Determination Theory (Deci & Ryan, 1985, 2000; 2002; Grolnick & Ryan, 1987, 1989), many studies in the literature have demonstrated the positive impact of autonomy support on intrinsic motivation and activity engagement (Deci & Ryan, 2000; Ntoumanis, 2005; Ryan, 1995; Vallerand et al., 1997). Furthermore, Reeve and colleagues (Reeve, Jang, Carrell, Jeon, & Barch, 2004) demonstrated that experimentally induced increases in teachers' autonomy support enhanced students' engagement during classes. This relationship between autonomy support and increased engagement in an activity has been measured in many other studies (Black & Deci, 2000; Chatzisarantis, Hagger, & Smith, 2007; Grolnick, Ryan, & Deci, 1991; Hagger, Chatzisarantis, Culverhouse, & Biddle, 2003; Joussemet, Koestner, Lekes, & Landry, 2005; Mageau & Vallerand, 2003; Soenens & Vansteenkiste, 2005).

Moreover, results of the present thesis also demonstrated that an autonomy-supportive environment facilitates the transmission of a harmonious passion. These results are in line with those of Mageau and colleagues (2009), who demonstrated that autonomy support is essential for the development of passion and for distinguishing between who will become harmoniously and obsessively-passionate.

More specifically, students with a harmonious passion reported interacting with parents and other significant adults who were more autonomy-supportive than students with an obsessive passion. Mageau's finding was robust, as it was obtained across three studies using correlational and short-term longitudinal designs and three different measures of autonomy support. It was also observed in novice, intermediate, and expert samples, suggesting that autonomy support might be an important ingredient not only for the development but also for the maintenance of a harmonious passion at all stages of talent development (Bloom, 1985). However, Mageau's studies did not look at the transmission of passion between two individuals.

Conversely, in line with Lafrenière and colleague (2011), the present results demonstrated that obsessively-passionate significant adults are more likely to use controlling or less likely to use autonomy-supportive behaviors. Consequently, obsessively-passionate significant adults are more likely to transmit an obsessive passion because a large portion of novice's attention is directed toward meeting others' expectations and not on the activity itself. In line with Csikszentmihalyi's (1975, 1982) theory on flow experiences, children who are distracted from their activity would be less likely to experience flow during activity engagement. As demonstrated by Lavigne, Forest, and Crevier-Braud (2011), individuals with an obsessive passion toward their work do not experience flow. It is possible that obsessively-passionate individuals do not experience flow because, in a controlling environment, significant adults are more likely to give frequent directives to the novices, interfere with the novice's preferred pace of learning, and prevent the novice from critical and independent thinking.

From a practical point of view, a variety of factors can lead significant adults to promote a controlling environment instead of an autonomy-supportive one. Grolnick (2003) argues that parental experiences of pressure lead to more controlling behaviors because autonomy support requires time and psychological availability,



which are both reduced under pressure. Internal forms of pressure, like worry and anxiety, have such negative effects (Assor, Kaplan, Kanat-Maymon, & Roth, 2005; Grolnick, Gurland, DeCoursey, & Jacob, 2002). One recent study suggested that parents' perceptions of external threat in their child's environment as reflected in worries about the future, limited resources, and unpredictability were also associated with controlling behaviors (Gurland & Grolnick, 2005). Other research demonstrated that teachers often feel pushed into implementing controlling strategies by external pressures such as high stakes testing policies (Deci, et al., 1982; Pelletier, et al., 2002; Ryan & La Guardia, 1999). Additionally, Assor and colleagues (2005) hypothesized that children's perceptions of their teachers controlling behaviors would arouse anger and anxiety in children, and these emotions would enhance amotivation and extrinsic motivation, which would undermine intensive academic engagement and promote restricted engagement, respectively. Path analyses supported their hypothesis (Assor et al., 2005). Therefore, the present thesis extends past research on controlling environment and its role on the transmission of an obsessive passion because it is the first to empirically measure the role of control in the transmission of an obsessive passion.

In sum, if we take into consideration the fact that significant adults typically initiate children to an activity, convey that it is to be valued, and suggest that it may represent a desirable aspect of one's identity, one can start appreciating the important role that parents and teachers play in the development and transmission of passion. Although correlational in nature (except for Article 2 - Study 2), results from all studies of the present thesis suggest that harmonious passion is yet another positive consequence of an autonomy-supportive teacher, while obsessive passion is a less adaptive consequence of a controlling teacher.

### **Positive Emotions: The Role of Enthusiasm and Excitement**

In addition to its contribution to the autonomy support literature, the present thesis also has implications for the positive emotions literature, especially for enthusiasm and excitement. The findings of the second article demonstrated that the experience of positive emotions during activity engagement is important in the transmission processes over and beyond those of autonomy support. The results of Study 1 (Article 2) showed that over a three-month period, harmoniously-passionate teachers influenced the students' levels of enthusiasm and excitement, while obsessively-passionate teachers influenced the students' levels of excitement. Consequently, students' experiences of enthusiasm and excitement during activity engagement are more likely to facilitate the transmission of a harmonious and an obsessive passion, respectively. Additionally, in Article 2 – Study 2, results demonstrated that harmoniously-passionate teachers are more likely to enhance students' enthusiasm and excitement, whereas obsessively-passionate teachers are more likely to increase students' excitement. Thus, obsessively-passionate teachers seem to transmit their passion through excitement, while it appears that harmoniously-passionate teachers influence the transmission of both types of passion through their impact on both students' enthusiasm and excitement. These results thus suggest that regularly experiencing enthusiasm and excitement during activity engagement may have a beneficial influence for increasing one's harmonious and obsessive passion, respectively.

In line with positive emotions, Fredrickson's Broaden-and-Build Theory (2001) posits that the experience of positive affect is conducive to high quality of relationships. This is so because positive affect opens up people's thought-action repertoires and self, leading one to experience the world more fully, thereby facilitating smiles, positive sharing of the activity, connection, and openness toward others that are conducive to positive relationships (see Waugh & Fredrickson, 2006). However, the present results extend and prolong those of Fredrickson by demonstrating that the type of positive emotions matters in what is shared between

two individuals, namely passion. The results of the present thesis are in line with past findings on the role of enthusiasm and excitement. Specifically, Patrick and colleagues (2000) offered strong evidence, from both the laboratory and the classroom, to suggest that when a teacher exhibits enthusiasm, students are more likely to be engaged, interested, energetic, and curious about learning. Moreover, based on social-cognitive assumptions (Pekrun, 2000; Radel et al., 2010) that suggest that emotional transmission is based on socially perceivable hints about the emotional state of other persons, Fenzel and colleagues (2009) found that the relationship between teachers' enjoyment and students' enjoyment was mediated by teachers' displayed enthusiasm during teaching. However, they did not measure students' levels of enthusiasm during class. What the second article of this thesis shows is that students' levels of enthusiasm mediate the impact of teachers' harmonious passion on students' harmonious passion.

The results of the last two studies of the present thesis also showed that experience of excitement during activity engagement is involved in the transmission of passion. Very few studies in the literature have looked at the role of students' excitement as an important variable in activity engagement. Vallerand and colleagues (2003) stipulate that an obsessive passion can result from intra and/or interpersonal pressure or because the sense of excitement derived from activity engagement is uncontrollable. However, no empirical research so far has empirically measured this proposition. Therefore, the present findings provided some support for the Dualistic Model of Passion by demonstrating that experiences of excitement during activity engagement are, indeed, more likely to lead to the development of an obsessive passion. People with an obsessive passion can thus find themselves in the position of experiencing an uncontrollable urge to experience high levels of excitement, and consequently partake in the passionate activity they view as important and enjoyable.

In sum, the present findings indicate that teachers' and students' passion are closely linked and that the effects of teachers' passion on the transmission processes are mediated, in part, by students' experiences of positive emotions, such as enthusiasm and excitement. Insights into such processes underlying affective interactions between teachers and students are of crucial importance since emotionally positive classrooms are likely to be successful classrooms (Patrick et al., 2000). In addition, enhancing students' pleasant emotions in the classroom should be one important goal of instruction because these emotions are important for students' learning and achievement (Pekrun, 2006; Pekrun et al., 2002).

### **On the On-Going Development and Transmission of Passion**

The present results also provide further empirical support for Vallerand's (2010) position on the on-going development of passion. Specifically, social and personal factors that have some bearing on the internalization process coupled with the valuation process lead to the initial development of passion. Later on, social and personal factors that are relevant for the internalization process remain involved in the on-going development or transmission of a particular type of passion because both types of passion are present within the individual to different degrees (Vallerand, 2010). The present findings demonstrated that it is possible to experimentally manipulate the environment in which the teacher's passion can influence the transmission process. Therefore, as found in Study 2 (Article 2), students in a salient controlling environment were more likely to express an obsessive passion as the predominant one, while students in a salient autonomy-supportive environment were more likely to express a predominant harmonious passion.

Additionally, the present findings (Article 1, Study 1; Article 2 Study 1) showed that significant adults play an important role in the transmission of a passion for a new activity. Vallerand (2010) further posits that once a passion for a given activity has initially developed, its development does not stop there as such



development is on going. Thus, the presence or absence of social factors can modify (or reinforce) one's already existing passion. In the present thesis, results demonstrated that the same transmission processes were found with individuals who were already passionate for an activity (Article 1, Study 2; Article 2 Study 2). It is the first series of studies that empirically demonstrated the on-going development of passion. Thus, these results add further evidence that the passion transmission model can be used with individuals who do not already have a passion, as well as with those who are already passionate.

#### LIMITATIONS OF THE PRESENT RESEARCH

It is essential to consider some of the limitations presented in the two articles of this thesis. First, the designs of the present research were mostly correlational in nature. Therefore, causality and direction cannot be assumed. However, the first three studies of the present thesis have used structural equation modeling as the primary method of statistical analysis, which can give us some clues as to the direction of the proposed relationships. Although an effort was made to use an experimental design to study the PTM (Article 2, Study 2), the present methodology cannot test if the significant adult's passion actually fosters the transmission of a passion at the beginning of a new activity. Therefore, it will nevertheless be necessary to perform further studies using experimental designs. A second limitation pertains to the self-reported nature of some variables in the present thesis. Future research should consider using observations and informant reports by a third person in order to validate the processes necessary in the transmission of passion.

Third, issues relating to the generalizability of the present findings to other participants and to other activities must be underscored. Samples were mostly composed of college and university students who volunteered to participate in the study. Although the concept of passion has been validated with children, adolescents, middle-aged adults, and elderly populations (see Vallerand, 2010), the present results

on the transmission of passion have not yet been replicated with these populations. Future research is needed in order to measure the transmission of passion in other activities and using a wider range of participants.

Finally, negative emotions were not measured in the present research. Thus, the results of the present thesis represent only one side of the affective experiences in the transmission process. It is possible that the experience of negative emotions during activity engagement leads to the transmission of an obsessive passion. Past research has demonstrated a positive relationship between obsessive passion and negative emotions (Ratelle et al., 2004; Vallerand et al., 2003, Study 1, 2). However, it is also possible that the experience of negative emotions interferes with the quality of activity engagement (Watson, 1988), and consequently, no passion would be transmitted. Future research is needed in order to test the above competing hypotheses in the passion transmission process.

## FUTURE RESEARCH

The present findings have a number of directions for future research. A first one pertains to autonomy support. In line with autonomy support, future research should consider the bi-dimensional conceptualization of autonomy support (Soenens, Vansteenkiste, & Sierens, 2009). According to these authors, autonomy support can be differentiated between two dimensions, namely the promotion of independence and the promotion of volitional functioning (Soenens, Vansteenkiste, Lens, Luyckx, Goossens, Beyers, & Ryan 2007). In this case, promotion of independence is based on the premise that adolescents need to distance themselves from their parents, develop an independent view, and make decisions on their own, whereas the promotion of volitional functioning is characteristic of parents who encourage their children to behave on the basis of self-endorsed interests (Ryan, Deci, Grolnick, & La Guardia, 2006). The definition of autonomy support that we used in the present thesis is similar to the promotion of volitional functioning. Therefore, it would be

interesting in future research to see if promotion of independence can also lead to the transmission of passion, and especially a harmonious one.

Second, future research is needed in order to better understand how controlling behaviors from significant adults lead to more obsessive passion in children. It is possible that controlling behaviors lead to obsessive passion by teaching children that to obtain social approval they must engage, or worse, excel, in their activity, thus creating self-activity contingencies. The activity then becomes highly important but for self-protective and defensive reasons that are not necessarily coherent with the child's true desires and sense of self. This in turn sets the stage for developing an obsessive passion. In the present thesis, obsessively-passionate teachers who highly value school may have put external pressure on their students, such as demanding good grades, and consequently may have fostered an obsessive passion. However, future research is needed in order to test the above hypotheses.

Additionally, ego-involvement in parents, teachers, or coaches may also influence the provision of autonomy support versus control. When individuals are ego-involved in a task, their feelings about themselves depends on adequate performance on that task (Deci & Ryan, 1987; Ryan, 1982). It is also possible to be ego-involved in the performance of one's child (Grolnick et al., 2002). Research reveals showed that when mothers became ego-involved in the performance of their child, they tended to be more controlling (Grolnick et al., 2002; Gurland & Grolnick, 2005). It is possible that obsessively-passionate teachers are more likely to be ego-involved in their students' performance; therefore, creating a more controlled environment. Further research is needed in order to measure the determinants or characteristics of obsessively-passionate teachers, as well as harmoniously-passionate ones.

Finally, past research has underscored the importance of three types of achievement goals (Elliot, 1997; Elliot & Harackiewicz, 1996): mastery goals (which

focus on the development of personal competence and task mastery), performance-approach goals (which focus on the attainment of competence relative to others), and performance-avoidance goals (which focus on avoiding incompetence relative to others). Vallerand and colleagues (2007, 2008) examined whether achievement goals represent the psychological processes through which passion contributes to deliberate practice and thus, indirectly, to performance. Results demonstrated that harmoniously-passionate individuals were more likely to set mastery goals, whereas obsessively-passionate individuals were more likely to set performance avoidance and performance approach. Therefore, future research on the transmission of passion should investigate the role of "goal contagion". More specifically, at the beginning of a new activity, it would be interesting to measure what kind of achievement goals are set by the significant adults. These achievement goals can play a role in the transmission of passion. It is possible that imposed performance oriented goals interfere with the novices' true personal choices and interests and add extra pressure to perform well in the activity, thereby leading to the transmission of an obsessive passion. Future research is needed in order to test the role of achievement goals in the transmission of passion.

## CONCLUSION

In conclusion, the findings of the four studies of this thesis provide support for a preliminary model on the transmission of passion between two individuals. The results highlight the importance of autonomy-supportive versus controlling behaviors during activity engagement, as well as the experiences of positive emotions, such as enthusiasm and excitement. Further research is needed in order to establish a clearer picture of the various psychological processes involved in the transmission of a passion as it takes place in various real-life settings.



## APPENDICE A

ARTICLE 1, ÉTUDES 1, 2 ET ARTICLE 2 ÉTUDE 2:  
PAGE COUVERTURE ET FORMULAIRE DE CONSENTEMENT AVERTI

ARTICLE 1, ÉTUDES 1, 2 ET ARTICLE 2 ÉTUDE 2:

PAGE COUVERTURE ET FORMULAIRE DE CONSENTEMENT AVERTI

### **Questionnaire sur une activité passionnante**

Nous effectuons présentement une étude visant à mieux connaître les attitudes des individus avec une passion envers une activité. Nous tenons à préciser que ce questionnaire n'est pas une évaluation. Il n'y a donc pas de bonnes ni de mauvaises réponses. Il vous vaudra environ 20 minutes pour remplir ce questionnaire en classe. **Nous vous demandons simplement de répondre aux questions de façon spontanée et honnête.** Il n'y a aucun avantage ou inconvénient prévisible associé à votre participation. Les renseignements qui vous sont demandés resteront **confidentiels** et ne serviront qu'aux fins de cette recherche. Les données seront conservées dans un local sous clef, accessibles aux seuls membres de l'équipe de recherche. Les données seront conservées pour une période de 5 ans après la fin de l'étude et elles seront détruites après cette période.

Cette étude se déroule dans le contexte d'une thèse de doctorat menée par Eric Donahue sous la supervision de Robert J. Vallerand, professeur au département de psychologie de l'UQAM.

Les résultats de cette étude seront ultérieurement présentés sur notre site:  
<http://www.er.uqam.ca/nobel/r26710/LRCS/>

**Nous vous remercions de votre précieuse collaboration.**

Eric Donahue (514-987-1841) et Robert J. Vallerand, Ph.D. (514-987-4836)  
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Laboratoire de Recherche sur le Comportement Social

Département de Psychologie  
Université du Québec à Montréal

### **FORMULAIRE DE CONSENTEMENT AVERTI**

Lorsqu'une étude est réalisée par un membre de l'Université du Québec à Montréal, le comité de déontologie de l'Université exige le consentement écrit des personnes participantes. Cette mesure n'implique pas que le projet comporte des risques ou qu'il soit gênant, mais elle vise plutôt à assurer le respect et la confidentialité des individus concernés.

*Ayant lu et compris le texte ci-dessus, j'accepte volontairement de participer à cette étude, tout en sachant qu'il m'est possible en tout temps de me retirer de l'étude sans pénalité et sans préjudice. Il est entendu que mes réponses resteront confidentielles et anonymes.*

APPENDICE B

ARTICLE 2, ÉTUDE 1:  
PAGE COUVERTURE ET FORMULAIRE DE CONSENTEMENT AVERTI



## ARTICLE 2, ÉTUDE 1:

## PAGE COUVERTURE ET FORMULAIRE DE CONSENTEMENT AVERTI

**Questionnaire sur le transfert de la psychologie**

Nous effectuons présentement une étude visant à mieux connaître les attitudes des étudiants avec un intérêt envers la psychologie. Nous tenons à préciser que ce questionnaire n'est pas une évaluation. Il n'y a donc pas de bonnes ni de mauvaises réponses. Il vous faudra environ 25 minutes pour remplir ce questionnaire en classe. **Nous vous demandons simplement de répondre aux questions de façon spontanée et honnête.** Il n'y a aucun avantage ou inconvénient prévisible associé à votre participation. Les renseignements qui vous sont demandés resteront **confidentiels** et ne serviront qu'aux fins de cette recherche. Les données seront conservées dans un local sous clef, accessibles aux seuls membres de l'équipe de recherche. Les données seront conservées pour une période de 5 ans après la fin de l'étude et elles seront détruites après cette période.

Cette étude se déroule dans le contexte d'une thèse de doctorat menée par Eric Donahue sous la supervision de Robert J. Vallerand, Ph.D., professeur au département de psychologie de l'UQAM.

Les résultats de cette étude seront ultérieurement présentés sur notre site:  
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Département de Psychologie  
Université du Québec à Montréal

## **IMPORTANT**

**Dans l'optique de combiner vos questionnaires et de garder votre anonymat et confidentialité, nous vous demandons d'indiquer les 4 derniers chiffres de votre numéro de téléphone ainsi que les 3 premières lettres de votre prénom (p.ex. 1111rob)? Ces informations seront exclusivement utilisées afin d'effectuer le suivi. \_\_\_\_\_**

APPENDICE C  
ARTICLE 1, ÉTUDE 1: QUESTIONNAIRE

## ARTICLE 1, ÉTUDE 1: QUESTIONNAIRE

Informations générales sur vous

1. Âge : \_\_\_\_\_ 2. Sexe : Femme Homme
3. Quel est le plus haut niveau de scolarité que vous avez complété : \_\_\_\_\_
4. Quel est votre programme d'étude actuel : \_\_\_\_\_

Une passion se définit comme une forte inclinaison envers une activité que vous aimez, que vous trouvez importante et dans laquelle vous investissez beaucoup de temps et d'énergie. Donc, pour qu'une activité représente une passion pour vous, cette activité doit être significative dans votre vie. vous devez l'aimer et y passer beaucoup de temps sur une base régulière.

Quelle est votre activité passionnante ? \_\_\_\_\_

Depuis combien d'années faites-vous votre activité (ex: 3 ans et 2 mois) : \_\_\_\_\_ ans

Combien d'heures par semaine faites-vous votre activité: \_\_\_\_\_ heures

*En pensant à cette activité passionnante, indiquez à quel point vous êtes en accord avec chaque énoncé.*

Pas du tout	Très peu	Un peu	Moyennement	Assez	Fortement	Très fortement
en accord	en accord	en accord	en accord	en accord	en accord	en accord
1	2	3	4	5	6	7
1. Mon activité s'harmonise bien avec les autres domaines de ma vie.					1 2 3 4 5 6 7	
2. J'éprouve de la difficulté à contrôler mon besoin de faire mon activité.					1 2 3 4 5 6 7	
3. Les choses nouvelles que je découvre dans le cadre de mon activité me permettent de l'apprécier davantage.					1 2 3 4 5 6 7	
4. J'ai un sentiment qui est presque obsessionnel pour mon activité.					1 2 3 4 5 6 7	
5. Mon activité reflète les qualités que j'aime de ma personne.					1 2 3 4 5 6 7	
6. C'est une activité qui me permet de vivre des expériences variées.					1 2 3 4 5 6 7	
7. Mon activité est la seule chose qui me fasse vraiment "tripper".					1 2 3 4 5 6 7	



8. Mon activité s'intègre bien dans ma vie.	1	2	3	4	5	6	7
9. Si je le pouvais, je ferais seulement mon activité.	1	2	3	4	5	6	7
10. Mon activité est en harmonie avec les autres choses qui font partie de moi.	1	2	3	4	5	6	7
11. Mon activité est tellement excitante que parfois j'en perds le contrôle.	1	2	3	4	5	6	7
12. J'ai l'impression que mon activité me contrôle.	1	2	3	4	5	6	7
13. Je consacre beaucoup de temps à faire cette activité.	1	2	3	4	5	6	7
14. J'aime cette activité.	1	2	3	4	5	6	7
15. Cette activité est importante pour moi.	1	2	3	4	5	6	7
16. Cette activité représente une passion pour moi.	1	2	3	4	5	6	7
17. Cette activité fait partie de qui je suis.	1	2	3	4	5	6	7



Encerle le dessin qui représente le mieux la relation entre vous et votre activité.

### **La prochaine section porte sur la personne qui vous a le plus influencé à commencer à faire cette activité**

Nous sommes intéressés à connaître les attitudes et les caractéristiques de la personne qui vous ont le plus influencé dans le commencement de votre activité. Cette personne peut être un(e) ami(e), un professeur, un entraîneur, votre père ou votre mère. Souvenez-vous de cette personne et de l'influence qu'elle a eue dans le développement de votre passion.

Les énoncés qui suivent portent sur cette personne. De façon spontanée et honnête, indiquez à quel point vous êtes en accord avec chaque énoncé.

Donc, **à l'aide de vos souvenirs**, rappelez-vous de cette personne et de l'impact qu'elle a eu dans le développement de votre activité passionnante.

**Qui est cette personne d'influence?** (Écrivez son rôle: parent, prof, ami, idole)

Quel âge aviez-vous lorsque cette personne vous a influencé à commencer à faire cette activité: \_\_\_\_\_

Pendant combien de temps avez vous pratiqué cette activité avec cette personne : \_\_\_\_\_ ans

Quel a été l'impact de cette personne dans le développement de votre passion envers cette activité.

Peu d'impact 0% 10 20 30 40 50 60 70 80 90 100% Énormément d'impact

*En pensant à cette personne, indiquez à quel point vous êtes en accord avec chaque énoncé.*

Pas du tout	Très peu	Un peu	Moyennement	Assez	Fortement	Très fortement
en accord	en accord	en accord	en accord	en accord	en accord	en accord
1	2	3	4	5	6	7

1. Cette personne me donnait l'opportunité de prendre mes propres décisions. 1 2 3 4 5 6 7
2. Cette personne m'obligeait à faire les choix qu'elle prenait. 1 2 3 4 5 6 7
3. Les commentaires que je recevais de cette personne étaient constructifs  
et m'aidaient à m'améliorer. 1 2 3 4 5 6 7
4. Cette personne me laissait une certaine liberté dans mes actions lorsque je faisais mon activité 1 2 3 4 5 6 7
5. Cette personne m'encourageait à poser des questions. 1 2 3 4 5 6 7

*Lorsque vous faisiez l'activité avec cette personne, indiquez à quel point cette personne exprimait chacune des caractéristiques suivantes.*

1 Très peu ou pas du tout	2 Un peu	3 Modérément	4 Pas mal	5 Extrêmement
---------------------------------	-------------	-----------------	--------------	------------------

Cette personne était...

- |   |   |   |   |   |   |                         |   |   |   |   |   |
|---|---|---|---|---|---|-------------------------|---|---|---|---|---|
| 1. Intéressante                         | 1 | 2 | 3 | 4 | 5 | 2. Heureuse             | 1 | 2 | 3 | 4 | 5 |
| 3. Joyeuse                              | 1 | 2 | 3 | 4 | 5 | 4. Alerté               | 1 | 2 | 3 | 4 | 5 |
| 5. Énergique                            | 1 | 2 | 3 | 4 | 5 | 6. Relaxe               | 1 | 2 | 3 | 4 | 5 |
| 7. Excitante                            | 1 | 2 | 3 | 4 | 5 | 8. Enthousiaste         | 1 | 2 | 3 | 4 | 5 |
| 9. Déterminée                           | 1 | 2 | 3 | 4 | 5 | 10. Active              | 1 | 2 | 3 | 4 | 5 |
| 11. Contente                            | 1 | 2 | 3 | 4 | 5 | 12. Fièré               | 1 | 2 | 3 | 4 | 5 |
| 13. Inspirante                          | 1 | 2 | 3 | 4 | 5 | 14. Enivrante           | 1 | 2 | 3 | 4 | 5 |
| 15. Passionnée                          | 1 | 2 | 3 | 4 | 5 | 16. Émouvante           | 1 | 2 | 3 | 4 | 5 |
| 17. Ambitieuse                          | 1 | 2 | 3 | 4 | 5 | 18. Animée              | 1 | 2 | 3 | 4 | 5 |
| 19. Motivante                           | 1 | 2 | 3 | 4 | 5 | 20. Charismatique       | 1 | 2 | 3 | 4 | 5 |
| 21. Dynamique                           | 1 | 2 | 3 | 4 | 5 | 22. Humoristique        | 1 | 2 | 3 | 4 | 5 |
| 23. Chaleureuse                         | 1 | 2 | 3 | 4 | 5 | 24. Amicale             | 1 | 2 | 3 | 4 | 5 |
| 25. Stimulante                          | 1 | 2 | 3 | 4 | 5 | 26. Sûre d'elle         | 1 | 2 | 3 | 4 | 5 |
| 27. Expressive                          | 1 | 2 | 3 | 4 | 5 | 28. Attentive           | 1 | 2 | 3 | 4 | 5 |
| 29. Compréhensive                       | 1 | 2 | 3 | 4 | 5 | 30. Intelligente        | 1 | 2 | 3 | 4 | 5 |
| 31. Positive                            | 1 | 2 | 3 | 4 | 5 | 32. Avait du leadership | 1 | 2 | 3 | 4 | 5 |
| 33. Sur un "high"                       | 1 | 2 | 3 | 4 | 5 | 34. Trippante           | 1 | 2 | 3 | 4 | 5 |
| 35. Intense                             | 1 | 2 | 3 | 4 | 5 | 36. Coopérative         | 1 | 2 | 3 | 4 | 5 |
| 37. Respectueuse                        | 1 | 2 | 3 | 4 | 5 | 38. Empathique          | 1 | 2 | 3 | 4 | 5 |
| 39. Excitée au possible (positivement). | 1 | 2 | 3 | 4 | 5 |                         |   |   |   |   |   |

*En pensant à cette personne, indique à quel point tu es en accord avec chaque énoncé.*

Pas du tout	Très peu	Un peu	Moyennement	Assez	Fortement	Très fortement
en accord	en accord	en accord	en accord	en accord	en accord	en accord
1	2	3	4	5	6	7

D'après vous...

1. Pour cette personne, l'activité s'harmonisait bien avec les autres activités dans sa vie..... 1 2 3 4 5 6 7
2. Cette personne éprouvait de la difficulté à contrôler son besoin de faire l'activité..... 1 2 3 4 5 6 7
3. Les choses nouvelles que cette personne découvrait dans le cadre de l'activité lui  
permettaient de l'apprécier davantage..... 1 2 3 4 5 6 7
4. Cette personne avait un sentiment qui était presque obsessionnel pour l'activité..... 1 2 3 4 5 6 7
5. L'activité reflétait les bonnes qualités de cette personne..... 1 2 3 4 5 6 7
6. L'activité lui permettait de vivre des expériences variées..... 1 2 3 4 5 6 7
7. L'activité était la seule chose qui lui fasse vraiment "tripper". ..... 1 2 3 4 5 6 7
8. L'activité s'intégrait bien dans sa vie..... 1 2 3 4 5 6 7
9. Si cette personne le pouvait elle ferait seulement son activité. .... 1 2 3 4 5 6 7
10. L'activité est en harmonie avec les autres choses qui font partie de cette personne..... 1 2 3 4 5 6 7
11. L'activité est tellement excitante que parfois cette personne en perd le contrôle..... 1 2 3 4 5 6 7
12. J'ai l'impression que l'activité contrôle cette personne..... 1 2 3 4 5 6 7
13. Cette personne consacre beaucoup de temps à cette activité..... 1 2 3 4 5 6 7
14. Cette personne aime son activité..... 1 2 3 4 5 6 7
15. L'activité est importante pour cette personne..... 1 2 3 4 5 6 7
16. L'activité représente une passion pour cette personne..... 1 2 3 4 5 6 7
17. Cette personne semblait se définir par son activité..... 1 2 3 4 5 6 7

**Commentaires supplémentaires sur cette personne.** Tous comportements ou attitudes qui vous ont marqués sur cette personne dans le développement de votre activité passionnante et qui n'ont pas été couverts dans les items précédents seront grandement appréciés.

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## APPENDICE D

### ARTICLE 1, ÉTUDE 2: QUESTIONNAIRE DE L'ENTRAÎNEUR

## ARTICLE 1, ÉTUDE 2: QUESTIONNAIRE DE L'ENTRAÎNEUR

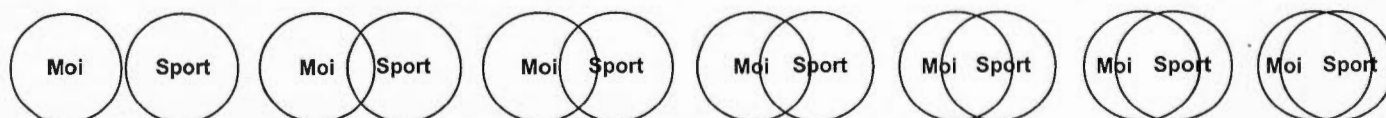
Informations générales sur vous

1. Âge : \_\_\_\_\_ 2. Sexe : Femme ☐ Homme ☐
3. Quel est votre niveau d'éducation actuel : \_\_\_\_\_
4. Combien d'heures par semaine accordez-vous à ce sport: \_\_\_\_\_ heures
5. Depuis combien d'années êtes-vous entraîneur dans ce sport: \_\_\_\_\_ ans
6. Quel est votre sport : \_\_\_\_\_

*En pensant à votre sport, indiquez à quel point vous êtes en accord avec chaque énoncé.*

Pas du tout	Très peu	Un peu	Moyennement	Assez	Fortement	Très fortement
en accord	en accord	en accord	en accord	en accord	en accord	en accord
1	2	3	4	5	6	7
1. Ce sport s'harmonise bien avec les autres domaines de ma vie.						1 2 3 4 5 6 7
2. J'éprouve de la difficulté à contrôler mon besoin de faire ce sport. .						1 2 3 4 5 6 7
3. Les choses nouvelles que je découvre dans le cadre de ce sport me permettent de l'apprécier davantage.						1 2 3 4 5 6 7
4. J'ai un sentiment qui est presque obsessionnel pour ce sport.						1 2 3 4 5 6 7
5. Ce sport reflète les qualités que j'aime de ma personne.						1 2 3 4 5 6 7
6. Ce sport est une activité qui me permet de vivre des expériences variées.						1 2 3 4 5 6 7
7. Ce sport est la seule chose qui me fasse vraiment "tripper".						1 2 3 4 5 6 7
8. Ce sport s'intègre bien dans ma vie.						1 2 3 4 5 6 7

9. Si je le pouvais, je ferais seulement de ce sport.	1 2 3 4 5 6 7
10. Ce sport est en harmonie avec les autres choses qui font partie de moi.	1 2 3 4 5 6 7
11. Ce sport est tellement excitant que parfois j'en perds le contrôle.	1 2 3 4 5 6 7
12. J'ai l'impression que ce sport me contrôle.	1 2 3 4 5 6 7
13. Je consacre beaucoup de temps à faire de ce sport.	1 2 3 4 5 6 7
14. J'aime ce sport.	1 2 3 4 5 6 7
15. Ce sport est important pour moi.	1 2 3 4 5 6 7
16. Ce sport représente une passion pour moi.	1 2 3 4 5 6 7
17. Ce sport fait partie de qui je suis.	1 2 3 4 5 6 7



Encerclez le dessin qui représente le mieux la relation entre vous et ce sport.

*En pensant à ce sport, indiquez à quel point vous êtes en accord avec chaque énoncé.*

du tout	un peu	peu	un peu plus	assez	très	très fortement
en accord	en accord	en accord	en accord	en accord	en accord	en accord

En général, il est important pour moi ...

1. ... que les choix des étudiants soient basés sur leurs vrais intérêts et valeurs	1 2 3 4 5 6 7
2. ... que les athlètes soient libres de faire les choses à leur façon	1 2 3 4 5 6 7
3. ... que les choix des athlètes reflètent leur vraie personnalité, leur «vrai soi»	1 2 3 4 5 6 7
4. ... que les athlètes aient du succès lorsqu'ils font ce sport	1 2 3 4 5 6 7
5. ... que mes athlètes aient du succès lorsqu'ils ont des compétitions difficiles	1 2 3 4 5 6 7

6. ...que mes athlètes attaquent et maîtrisent des défis difficiles	1	2	3	4	5	6	7
7. ...de sentir mes athlètes capables et efficaces dans ce qu'ils font	1	2	3	4	5	6	7
8.... d'avoir un sentiment de contact avec les athlètes que j'aime et qui m'aime	1	2	3	4	5	6	7
9. ...d'être proche et connecté avec les athlètes qui sont importants pour moi	1	2	3	4	5	6	7
10. ...d'être attentionné(e) envers les athlètes	1	2	3	4	5	6	7
11. ...d'avoir un sentiment d'intimité avec les athlètes avec qui je passe du temps	1	2	3	4	5	6	7
12. ...que je communique à mes athlètes une vision claire et positive du futur	1	2	3	4	5	6	7
13. ...que je les supporte et les encourage dans leur développement	1	2	3	4	5	6	7
14. ...que j'encourage et reconnais le travail de mes athlètes	1	2	3	4	5	6	7
15. ...que je favorise la confiance, l'implication et la coopération entre mes athlètes	1	2	3	4	5	6	7
16. ...que j'encourage mes athlètes à penser aux problèmes de façon différente et les encourage à ce questionnaire sur les stratégies de base	1	2	3	4	5	6	7
17. ...que mes valeurs soient claires et que je pratique ce que je prêche	1	2	3	4	5	6	7
18. ...que j'inspire de la fierté et du respect à mes athlètes en plus de les inspirer à être hautement compétents	1	2	3	4	5	6	7
19. ...d'offrir mon assistance en échange de leurs efforts	1	2	3	4	5	6	7
20. ...de définir clairement qu'ils peuvent s'attendre à recevoir lorsque les objectifs de performance sont atteints	1	2	3	4	5	6	7
21. ...d'exprimer ma satisfaction lorsqu'ils performant conformément aux attentes	1	2	3	4	5	6	7

*En pensant à ce sport, indiquez à quel point vous êtes en accord avec chaque énoncé.*

du tout ccord	peu ccord	peu ccord	ennement ccord	ez ccord	ement ccord	fortement ccord
------------------	--------------	--------------	-------------------	-------------	----------------	--------------------

1. Je donne l'opportunité à mes athlètes de prendre leurs propres décisions	1	2	3	4	5	6	7
2. Je donne des commentaires constructifs qui aident les athlètes à s'améliorer	1	2	3	4	5	6	7
3. Je laisse une certaine liberté dans les actions de mes athlètes	1	2	3	4	5	6	7
4. J'encourage mes athlètes à poser des questions	1	2	3	4	5	6	7
5. J'exprime de la confiance dans les habiletés de mes athlètes à bien réussir dans ce	1	2	3	4	5	6	7

sport	
6. J'écoute l'opinion de mes athlètes avant de donner la mienne	1 2 3 4 5 6 7
7. J'oblige les athlètes à faire à ma manière les exercices que je sélectionne	1 2 3 4 5 6 7
8. Je souligne l'importance de bien réussir dans ce sport s'ils veulent aller à atteindre de un niveau élite	1 2 3 4 5 6 7
9. Je m'assure qu'ils suivent mes exigences à la lettre	1 2 3 4 5 6 7
10. Durant les pratiques et compétitions, il est important pour moi de garder le contrôle total.	1 2 3 4 5 6 7
11. J'exige que chaque athlète participe activement aux entraînements	1 2 3 4 5 6 7
12. Je m'attends à ce que chaque athlète réponde à mes exigences, sinon je rectifie la situation	1 2 3 4 5 6 7



## APPENDICE E

## ARTICLE 1, ÉTUDE 2: QUESTIONNAIRE DE L'ATHLETE

## ARTICLE 1, ÉTUDE 2: QUESTIONNAIRE DE L'ATHLETE

Informations générales sur vous

1. Âge : \_\_\_\_\_ 2. Sexe : Femme ☐ Homme ☐
3. Quel est votre niveau d'étude actuel : \_\_\_\_\_
4. Depuis combien d'années pratiquez-vous ce sport : \_\_\_\_\_ ans
5. Combien d'heures par semaine accordez-vous à ce sport : \_\_\_\_\_ hrs
6. Quel est votre sport : \_\_\_\_\_

*En pensant à ce sport, indiquez à quel point vous êtes en accord avec chaque énoncé.*

du tout d'accord	un peu d'accord	un peu d'accord	un peu d'accord	un peu d'accord	un peu d'accord	un peu d'accord	un peu d'accord
---------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------

**En général, il est important pour mon entraîneur ...**

1. ... que les choix des athlètes soient basés sur leurs vrais intérêts et valeurs	1	2	3	4	5	6	7
2. ... que les athlètes soient libres de faire les choses à leur façon	1	2	3	4	5	6	7
3. ... que les choix des athlètes reflètent leur vraie personnalité, leur «vrai soi»	1	2	3	4	5	6	7
4. ... que les athlètes aient du succès lorsqu'ils font ce sport	1	2	3	4	5	6	7
5. ... que les athlètes attaquent et maîtrisent des défis difficiles	1	2	3	4	5	6	7
6. ... de sentir les athlètes capables et efficaces dans ce qu'ils font	1	2	3	4	5	6	7
7. ... d'avoir un sentiment de contact avec les athlètes	1	2	3	4	5	6	7
8. ... d'être proche et connecté avec les athlètes qui sont importants pour lui (elle)	1	2	3	4	5	6	7
9. ... d'être attentionné(e) envers les athlètes	1	2	3	4	5	6	7
10. ... d'avoir un sentiment de connexion avec les athlètes avec qui il (elle) passe du temps	1	2	3	4	5	6	7
11. ... de communiquer aux athlètes une vision claire et positive du futur	1	2	3	4	5	6	7
12. ... de supporter et encourager les athlètes dans leur développement	1	2	3	4	5	6	7
13. ... d'encourager et reconnaître le travail des athlètes	1	2	3	4	5	6	7
14. ... de favoriser la confiance, l'implication et la coopération entre les athlètes	1	2	3	4	5	6	7

15. ... de montrer aux athlètes à penser aux problèmes de façon différente et les encourager à questionner les stratégies de base	1	2	3	4	5	6	7
16. ... que ses valeurs soient claires et qu'il (elle) pratique ce qu'il (elle) prêche	1	2	3	4	5	6	7
17. ... d'inspirer de la fierté et du respect aux athlètes en plus de les inspirer à être hautement compétents	1	2	3	4	5	6	7
18. ... d'offrir son assistance en échange de leurs efforts	1	2	3	4	5	6	7
19. ... de définir clairement ce qu'il (elle) peut s'attendre à recevoir des athlètes lorsque les objectifs de performance sont atteints	1	2	3	4	5	6	7
20. ... d'exprimer sa satisfaction lorsque les athlètes performant conformément aux attentes	1	2	3	4	5	6	7

*En pensant à ce sport, indiquez à quel point vous êtes en accord.*

du tout en accord	un peu en accord	un peu en accord	assez en accord	assez en accord	très en accord	très en accord
----------------------	---------------------	---------------------	--------------------	--------------------	-------------------	-------------------

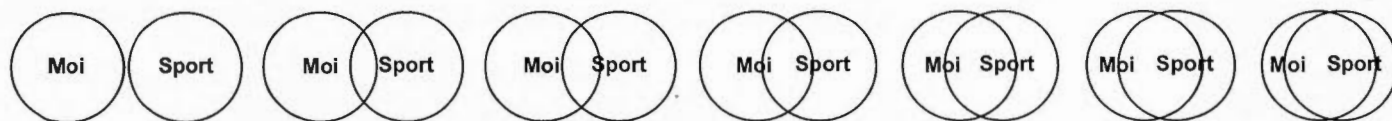
1. Mon entraîneur donne l'opportunité aux athlètes de prendre leurs propres décisions	1	2	3	4	5	6	7
2. Mon entraîneur donne des commentaires constructifs qui aident les athlètes à s'améliorer	1	2	3	4	5	6	7
3. Mon entraîneur laisse une certaine liberté dans les actions des athlètes lors des entraînements	1	2	3	4	5	6	7
4. Mon entraîneur m'encourage à poser des questions	1	2	3	4	5	6	7
5. Mon entraîneur exprime de la confiance aux athlètes dans leurs habiletés à bien réussir dans ce sport	1	2	3	4	5	6	7
6. Mon entraîneur écoute l'opinion des athlètes avant de donner la sienne	1	2	3	4	5	6	7
7. Mon entraîneur oblige les athlètes à faire à sa manière les exercices qu'il (elle) sélectionne	1	2	3	4	5	6	7
8. Mon entraîneur souligne l'importance de bien réussir dans ce sport si les athlètes veulent atteindre le niveau élite	1	2	3	4	5	6	7
9. Mon entraîneur s'assure que les athlètes suivent ces exigences à la lettre	1	2	3	4	5	6	7
10. Mon entraîneur contrôle tous les aspects des pratiques et compétitions.	1	2	3	4	5	6	7

11. Mon entraîneur exige que chaque athlète participe activement aux entraînements	1	2	3	4	5	6	7
12. Mon entraîneur s'attend à ce que tous les athlètes répondent à ses exigences, sinon il (elle) rectifie la situation	1	2	3	4	5	6	7

**En pensant à ce sport, indiquez à quel point vous êtes en accord avec chaque énoncé.**

<b>Pas du tout</b>	<b>Très peu</b>	<b>Un peu</b>	<b>Moyennement</b>	<b>Assez</b>	<b>Fortement</b>	<b>Très fortement</b>
<b>en accord</b>	<b>en accord</b>	<b>en accord</b>	<b>en accord</b>	<b>en accord</b>	<b>en accord</b>	<b>en accord</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
1. Ce sport s'harmonise bien avec les autres domaines de ma vie.					1	2 3 4 5 6 7
2. J'éprouve de la difficulté à contrôler mon besoin de faire de ce sport.					1	2 3 4 5 6 7
3. Les choses nouvelles que je découvre dans le cadre de ce sport me permettent de l'apprécier davantage.					1	2 3 4 5 6 7
4. J'ai un sentiment qui est presque obsessionnel pour ce sport.					1	2 3 4 5 6 7
5. Ce sport reflète les qualités que j'aime de ma personne.					1	2 3 4 5 6 7
6. Ce sport est une activité qui me permet de vivre des expériences variées.					1	2 3 4 5 6 7
7. Ce sport est la seule chose qui me fasse vraiment "tripper".					1	2 3 4 5 6 7
8. Ce sport s'intègre bien dans ma vie.					1	2 3 4 5 6 7
9. Si je le pouvais, je ferais seulement de ce sport.					1	2 3 4 5 6 7
10. Ce sport est en harmonie avec les autres choses qui font partie de moi.					1	2 3 4 5 6 7
11. Ce sport est tellement excitant que parfois j'en perds le contrôle.					1	2 3 4 5 6 7

12. J'ai l'impression que ce sport me contrôle.	1	2	3	4	5	6	7
13. Je consacre beaucoup de temps à faire de ce sport.	1	2	3	4	5	6	7
14. J'aime ce sport.	1	2	3	4	5	6	7
15. Ce sport est important pour moi.	1	2	3	4	5	6	7
16. Ce sport représente une passion pour moi.	1	2	3	4	5	6	7
17. Ce sport fait partie de qui je suis.	1	2	3	4	5	6	7



**Encerclez le dessin qui représente le mieux la relation entre vous et ce sport.**



APPENDICE F  
ARTICLE 2, ÉTUDE 1: QUESTIONNAIRE TEMPS 1

## ARTICLE 2, ÉTUDE 1: QUESTIONNAIRE TEMPS 1

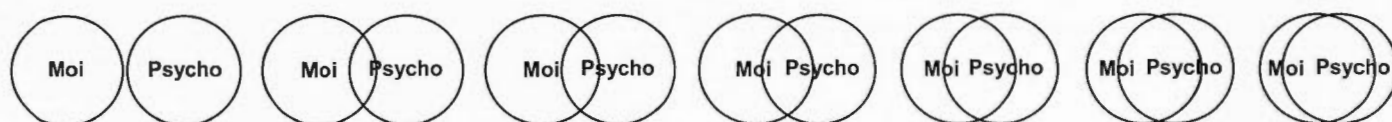
Informations générales sur vous

1. Âge : \_\_\_\_\_ 2. Sexe : Femme ☐ Homme ☐
3. Quel est votre programme d'étude actuel : \_\_\_\_\_
- 4a. Est-ce votre premier cours en psychologie? Oui ☐ Non ☐
- 4b. Si non, combien de cours de psychologie avez-vous complétés : \_\_\_\_\_ cours
5. Combien d'heures par semaine accordez-vous à la psychologie (cours, étude, lecture): \_\_\_\_\_ hrs

*En pensant à la psychologie, indiquez à quel point vous êtes en accord avec chaque énoncé.*

Pas du tout en accord 1	Très peu en accord 2	Un peu en accord 3	Moyennement en accord 4	Assez en accord 5	Fortement en accord 6	Très fortement en accord 7
1.	La psychologie s'harmonise bien avec les autres domaines de ma vie.					1 2 3 4 5 6 7
2.	J'éprouve de la difficulté à contrôler mon besoin de faire de la psychologie.					1 2 3 4 5 6 7
3.	Les choses nouvelles que je découvre dans le cadre de la psychologie me permettent de l'apprécier davantage.					1 2 3 4 5 6 7
4.	J'ai un sentiment qui est presque obsessionnel pour la psychologie.					1 2 3 4 5 6 7
5.	La psychologie reflète les qualités que j'aime de ma personne.					1 2 3 4 5 6 7
6.	La psychologie est une activité qui me permet de vivre des expériences variées.					1 2 3 4 5 6 7

7.	La psychologie est la seule chose qui me fasse vraiment "tripper".	1	2	3	4	5	6	7
8.	La psychologie s'intègre bien dans ma vie.	1	2	3	4	5	6	7
9.	Si je le pouvais, je ferais seulement de la psychologie.	1	2	3	4	5	6	7
10.	La psychologie est en harmonie avec les autres choses qui font partie de moi.	1	2	3	4	5	6	7
11.	La psychologie est tellement excitante que parfois j'en perds le contrôle.	1	2	3	4	5	6	7
12.	J'ai l'impression que la psychologie me contrôle.	1	2	3	4	5	6	7
13.	Je consacre beaucoup de temps à faire de la psychologie.	1	2	3	4	5	6	7
14.	J'aime la psychologie.	1	2	3	4	5	6	7
15.	La psychologie est importante pour moi.	1	2	3	4	5	6	7
16.	La psychologie représente une passion pour moi.	1	2	3	4	5	6	7
17.	La psychologie fait partie de qui je suis.	1	2	3	4	5	6	7



**Encerle le dessin qui représente le mieux la relation entre vous et la psychologie.**

***En pensant à la psychologie, indiquez à quel point vous êtes en accord avec chaque énoncé.***

Pas du tout	Très peu	Un peu	Moyennement	Assez	Fortement	Très fortement
en accord	en accord	en accord	en accord	en accord	en accord	en accord
1	2	3	4	5	6	7

**DANS MES ÉTUDES EN PSYCHOLOGIE...**

1) ..., je me sens libre de mes choix.	1	2	3	4	5	6	7
2) ..., j'ai beaucoup de sympathie pour les personnes avec lesquelles j'interagis.	1	2	3	4	5	6	7
3) ..., souvent, je ne me sens pas très compétent.	1	2	3	4	5	6	7
4) ..., je me sens généralement libre d'exprimer mes idées et mes opinions.	1	2	3	4	5	6	7
5) ..., je m'entends bien avec les personnes avec lesquelles je rentre en contact.	1	2	3	4	5	6	7
6) ..., j'ai le sentiment de bien réussir.	1	2	3	4	5	6	7
7) ..., j'ai la possibilité de prendre des décisions à propos de mon programme d'étude.	1	2	3	4	5	6	7
8) ..., les personnes que je côtoie m'estiment et m'apprécient.	1	2	3	4	5	6	7
9) ..., j'estime être en mesure de répondre aux exigences de mon programme d'étude.	1	2	3	4	5	6	7
10) ..., je participe à l'élaboration de mon programme d'étude.	1	2	3	4	5	6	7
11) ..., je considère les personnes avec lesquelles j'interagis régulièrement comme mes amis.	1	2	3	4	5	6	7
12) ..., je n'ai pas beaucoup de possibilités de montrer ce dont je suis capable.	1	2	3	4	5	6	7
13) ..., je peux donner mon avis concernant l'élaboration de mon programme d'étude.	1	2	3	4	5	6	7
14) ..., je me sens à l'aise avec les autres.	1	2	3	4	5	6	7
15) ..., souvent, je ne me sens pas très performant.	1	2	3	4	5	6	7

**Indiquez dans quelle mesure vous êtes en accord avec chacun des énoncés suivants**

<b>Pas du tout en accord</b>	<b>Très peu en accord</b>	<b>Un peu en accord</b>	<b>Moyennement en accord</b>	<b>Assez en accord</b>	<b>Fortement en accord</b>	<b>Très fortement en accord</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>

**Jusqu'à présent...**

1. Je m'identifie en tant qu'étudiant(e) de psychologie	1	2	3	4	5	6	7
2. J'aime vraiment mon domaine d'étude, c'est le domaine académique qui me représente le plus	1	2	3	4	5	6	7

3. En général, je me vois continuer en psychologie plus tard	1	2	3	4	5	6	7
4. Être un(e) étudiant(e) de psychologie importe sur la façon dont je me perçois	1	2	3	4	5	6	7
5. Je savais depuis longtemps que j'étudierais dans le domaine dans lequel j'étudie présentement.	1	2	3	4	5	6	7
6. J'attache beaucoup de valeur à la psychologie	1	2	3	4	5	6	7
7. En général, les études que je fais correspondent de près à ce que je veux	1	2	3	4	5	6	7
8. Les conditions dans lesquelles j'étudie sont excellentes	1	2	3	4	5	6	7
9. Je suis satisfait du type de cours que je suis en psychologie	1	2	3	4	5	6	7
10. Jusqu'à maintenant, j'ai obtenu les choses importantes que je voulais retirer de mes études	1	2	3	4	5	6	7
11. Si je pouvais changer quoi que ce soit à mes études, je n'y changerais presque rien	1	2	3	4	5	6	7
12. Être un(e) étudiant(e) de psychologie est une partie importante de mon identité	1	2	3	4	5	6	7
13. J'ai l'intention de prendre d'autres cours de psychologie.	1	2	3	4	5	6	7
14. J'ai l'intention d'entreprendre des études universitaires en psychologie	1	2	3	4	5	6	7
15. J'ai l'intention de faire carrière en psychologie.	1	2	3	4	5	6	7
16. J'adore étudier la psychologie.	1	2	3	4	5	6	7
17. Mon intérêt pour la psychologie est très élevé	1	2	3	4	5	6	7
18. Je passe du temps supplémentaire pour lire davantage sur la psychologie	1	2	3	4	5	6	7



APPENDICE G  
ARTICLE 2, ÉTUDE 1: QUESTIONNAIRE TEMPS 2

## ARTICLE 2, ÉTUDE 1: QUESTIONNAIRE TEMPS 2

★ **Ton professeur et la psychologie** ★

*En pensant à votre professeur, indiquez à quel point vous êtes en accord avec chaque énoncé.*

Pas du tout	Très peu	Un peu	Moyennement	Assez	Fortement	Très fortement
en accord	en accord	en accord	en accord	en accord	en accord	en accord
1	2	3	4	5	6	7

1. Mon professeur m'inspire à devenir comme lui (elle) en psychologie	1	2	3	4	5	6	7
2. Je me vois dans le futur comme mon professeur de psychologie	1	2	3	4	5	6	7
3. La psychologie me permet de faire qu'un avec mon professeur.	1	2	3	4	5	6	7
4. Mon professeur m'encourage à progresser en psychologie	1	2	3	4	5	6	7
5. Mon professeur me donne l'impression que je peux m'améliorer en psychologie	1	2	3	4	5	6	7
6. Mon professeur voit ma capacité à me perfectionner en psychologie	1	2	3	4	5	6	7
7. Mon professeur m'a fait réaliser que je ne deviendrais pas meilleur en psychologie	1	2	3	4	5	6	7
8. Mon professeur me donne l'opportunité de prendre mes propres décisions	1	2	3	4	5	6	7
9. Mon professeur m'oblige à faire les choix qu'il (elle) prend	1	2	3	4	5	6	7
10. Les commentaires que je reçois de mon professeur sont constructifs et m'aident à m'améliorer	1	2	3	4	5	6	7
11. Mon professeur me laisse une certaine liberté dans mes actions dans le cours de psychologie	1	2	3	4	5	6	7
12. Mon professeur m'encourage à me confier lorsque j'éprouve des problèmes en psychologie	1	2	3	4	5	6	7
13. Mon professeur me complimente sur mon cheminement dans le cours de psychologie	1	2	3	4	5	6	7

14. Mon professeur me motive à continuer dans ce domaine	1	2	3	4	5	6	7
15. Mon professeur exprime de l'appréciation lorsque je performe bien	1	2	3	4	5	6	7

*En pensant à ce cours de psychologie, indiquez à quel point vous êtes en accord.*

du tout d'accord	un peu d'accord	un peu d'accord	modérément d'accord	assez d'accord	fortement d'accord	très fortement d'accord
---------------------	--------------------	--------------------	------------------------	-------------------	-----------------------	----------------------------

1. Mon professeur donne l'opportunité aux étudiants de prendre leurs propres décisions	1	2	3	4	5	6	7
2. Mon professeur donne des commentaires constructifs qui aident les étudiants à s'améliorer	1	2	3	4	5	6	7
3. Mon professeur laisse une certaine liberté dans les actions des étudiants lors du cours	1	2	3	4	5	6	7
4. Mon professeur m'encourage à poser des questions	1	2	3	4	5	6	7
5. Mon professeur exprime de la confiance aux étudiants dans leurs habiletés à bien réussir dans le cours	1	2	3	4	5	6	7
6. Mon professeur écoute l'opinion des étudiants avant de donner la sienne	1	2	3	4	5	6	7
7. Mon professeur oblige les étudiants à faire à sa manière les exercices qu'il (elle) sélectionne	1	2	3	4	5	6	7
8. Mon professeur souligne l'importance de bien réussir son cours si les étudiants veulent aller à l'université	1	2	3	4	5	6	7
9. Mon professeur s'assure que les étudiants suivent les exigences du cours à la lettre	1	2	3	4	5	6	7
10. Mon professeur contrôle chaque aspect du cours.	1	2	3	4	5	6	7
11. Mon professeur exige que chaque étudiant participe activement au cours	1	2	3	4	5	6	7
12. Mon professeur s'attend à ce que tous les étudiants répondent à ses exigences, sinon il (elle) rectifie la situation	1	2	3	4	5	6	7

*En pensant à ton professeur, indique à quel point tu es en accord avec chaque énoncé.*

Pas du tout	Très peu	Un peu	Moyennement	Assez	Fortement	Très
-------------	----------	--------	-------------	-------	-----------	------

en accord	en accord	en accord	en accord	en accord	en accord	fortement en accord
1	2	3	4	5	6	7

D'après toi...

1. Pour ton professeur, la psychologie s'harmonise bien avec les autres activités dans sa vie	1	2	3	4	5	6	7
2. Ton professeur éprouve de la difficulté à contrôler son besoin de faire de la psychologie	1	2	3	4	5	6	7
3. La psychologie s'intègre bien dans sa vie	1	2	3	4	5	6	7
4. Ton professeur a un sentiment qui était presque obsessionnel pour la psychologie	1	2	3	4	5	6	7
5. J'ai l'impression que la psychologie contrôle mon professeur	1	2	3	4	5	6	7
6. La psychologie est en harmonie avec les autres choses qui font partie de ton professeur	1	2	3	4	5	6	7
7. Ton professeur consacre beaucoup de temps à la psychologie	1	2	3	4	5	6	7
8. Ton professeur aime la psychologie	1	2	3	4	5	6	7
9. La psychologie est importante pour ton professeur	1	2	3	4	5	6	7
10. La psychologie représente une passion pour ton professeur	1	2	3	4	5	6	7
11. Ton professeur semble se définir par la psychologie	1	2	3	4	5	6	7

### ★ Toi et la psychologie ★

Présentement, combien d'heures par semaine accordes-tu à la psychologie (cours, révision, lecture): \_\_\_\_ hrs

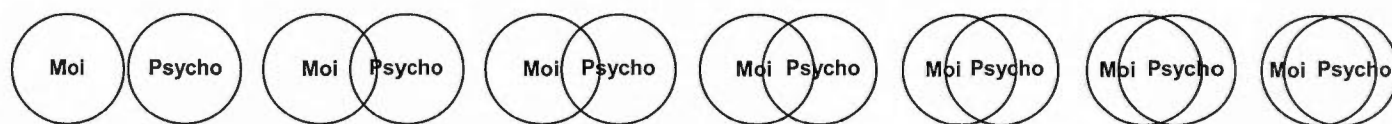
**En pensant à la psychologie, indiquez à quel point vous êtes en accord avec chaque énoncé.**

Pas du tout	Très peu	Un peu	Moyennement	Assez	Fortement	Très fortement
en accord	en accord	en accord	en accord	en accord	en accord	en accord
1	2	3	4	5	6	7



1.	La psychologie s'harmonise bien avec les autres domaines de ma vie.	1	2	3	4	5	6	7
2.	J'éprouve de la difficulté à contrôler mon besoin de faire de la psychologie.	1	2	3	4	5	6	7
3.	Les choses nouvelles que je découvre dans le cadre de la psychologie me permettent de l'apprécier davantage.	1	2	3	4	5	6	7
4.	J'ai un sentiment qui est presque obsessionnel pour la psychologie.	1	2	3	4	5	6	7
5.	La psychologie reflète les qualités que j'aime de ma personne.	1	2	3	4	5	6	7
6.	La psychologie est une activité qui me permet de vivre des expériences variées.	1	2	3	4	5	6	7
7.	La psychologie est la seule chose qui me fasse vraiment "tripper".	1	2	3	4	5	6	7
8.	La psychologie s'intègre bien dans ma vie.	1	2	3	4	5	6	7
9.	Si je le pouvais, je ferais seulement de la psychologie.	1	2	3	4	5	6	7
10.	La psychologie est en harmonie avec les autres choses qui font partie de moi.	1	2	3	4	5	6	7
11.	La psychologie est tellement excitante que parfois j'en perds le contrôle.	1	2	3	4	5	6	7
12.	J'ai l'impression que la psychologie me contrôle.	1	2	3	4	5	6	7
13.	Je consacre beaucoup de temps à faire de la psychologie.	1	2	3	4	5	6	7
14.	J'aime la psychologie.	1	2	3	4	5	6	7
15.	La psychologie est importante pour moi.	1	2	3	4	5	6	7
16.	La psychologie représente une passion pour moi.	1	2	3	4	5	6	7
17.	La psychologie fait partie de qui je suis.	1	2	3	4	5	6	7





**Encerle le dessin qui représente le mieux la relation entre vous et la psychologie.**

**Indiquez à quel point vous ressentez chacune de ces émotions**

1	2	3	4	5
Très peu ou pas du tout	Un peu	Modérément	Pas mal	Extrêmement

**Habituellement dans ce cours de psychologie, à quel point te sens-tu...**

1. Intéressé-e	1	2	3	4	5	2. Heureux-se	1	2	3	4	5
3. Joyeux-se	1	2	3	4	5	4. Alerte	1	2	3	4	5
5. Angoissé-e	1	2	3	4	5	6. Coupable	1	2	3	4	5
7. Énergique	1	2	3	4	5	8. Relaxe	1	2	3	4	5
9. Excité-e	1	2	3	4	5	10. Enthousiaste	1	2	3	4	5
11. Déterminé-e	1	2	3	4	5	12. Actif-ve	1	2	3	4	5
13. Perturbé-e	1	2	3	4	5	14. Irritable	1	2	3	4	5
15. Content-e	1	2	3	4	5	16. Fièr	1	2	3	4	5
17. Motivé-e	1	2	3	4	5	18. Attentif-ve	1	2	3	4	5
19. Hostile	1	2	3	4	5	20. Nerveux-se	1	2	3	4	5
21. Passionné-e	1	2	3	4	5	22. Intelligent-e	1	2	3	4	5
23. Ambitieux-se	1	2	3	4	5	24. Sur un "high"	1	2	3	4	5
25. Honteux-se	1	2	3	4	5	26. Anxieux-se	1	2	3	4	5
27. Dynamique	1	2	3	4	5	28. Stimulé-e	1	2	3	4	5
29. Trippe fort	1	2	3	4	5	30. Ennuyé-e	1	2	3	4	5
31. Excitée au possible (positivement).	1	2	3	4	5						

APPENDICE H  
ARTICLE 2, ÉTUDE 2: MANIPULATION

## ARTICLE 2, ÉTUDE 2: MANIPULATION

Veillez prendre le temps de lire le paragraphe ci-dessous. Ci-dessous, tu trouveras les caractéristiques d'un professeur fictif, clinicien et chercheur en psychologie. Il est très important de bien lire cette section puisque nous te demanderons ensuite de répondre à des énoncés concernant ce professeur et de t'imaginer être l'un de ses étudiant(e). Le Dr. Sherman Stove est professeur de psychologie à l'Université de Harvard. Lors d'une entrevue, le professeur Stove discute de l'importance de la psychologie dans sa vie. Voici les points importants à retenir de cette entrevue.

### **Professeur avec une Passion Harmonieuse**

Selon le professeur Sherman Stove, les qualités essentielles d'un professeur en psychologie sont:

- D'aimer ce qu'il fait en psychologie.
- D'accorder beaucoup d'importance à la psychologie
- De consacrer beaucoup de temps à la psychologie (lectures, recherche, intervention)

Selon le professeur Sherman Stove, il réussit bien en psychologie parce qu'il...

- Aime, même adore, la psychologie.
- S'investit pleinement en psychologie.
- Prône une vie équilibrée même si la psychologie occupe une place importante.
- Est capable de laisser place à autre chose que la psychologie lorsque la journée de travail est terminée.

### **Professeur avec une Passion Obsessive**

Selon le professeur Sherman Stove, les qualités essentielles d'un professeur en psychologie sont :

- D'aimer ce qu'il fait en psychologie.

- D'accorder beaucoup d'importance à la psychologie.
- De consacrer beaucoup de temps à la psychologie (lecture, recherche, intervention).

Selon le professeur Sherman Stove, il réussit bien en psychologie parce qu'il...

- Aime, même adore, la psychologie.
- S'investit cœur et âme pour la psychologie.
- Consacre sa vie entièrement à la psychologie, car la psychologie est sa seule priorité.
- Pense à la psychologie et ne parle que de cela, même après sa journée de travail.

### **Professeur sans Passion**

Selon le professeur Sherman Stove, les qualités essentielles d'un professeur en psychologie sont :

- Il s'assure de faire son travail quand il a le goût.
- Son attitude neutre.
- D'être satisfait que la journée soit terminée.

Selon le professeur Sherman Stove, il réussit bien en psychologie parce qu'il...

- Trouve la psychologie intéressante, mais sans plus.
- Fais le strict nécessaire pour donner des cours corrects.
- La psychologie n'occupe pas une place très importante dans sa vie.
- Préfère accomplir autre chose une fois la journée de travail terminée.

APPENDICE I  
ARTICLE 2, ÉTUDE 2: QUESTIONNAIRE



## ARTICLE 2, ÉTUDE 2: QUESTIONNAIRE

Informations générales sur vous

1. Âge : \_\_\_\_\_ 2. Sexe : Femme ☐ Homme ☐
3. Langue maternelle : \_\_\_\_\_
4. Quel est le plus haut niveau de scolarité que vous avez complété :  
\_\_\_\_\_
5. Quel est votre programme d'étude actuel :  
\_\_\_\_\_
6. Depuis combien d'années faites-vous vos études en psychologie (ex: 3 ans et 2 mois) : \_\_\_\_\_ ans
7. Combien d'heures par semaine passez-vous dans vos études en psychologie :  
\_\_\_\_\_ heures

**Veillez prendre le temps de lire le paragraphe ci-dessous.**

MANIPULATION ICI (Interview avec Dr. Stove)

*Le professeur Stove et la psychologie*

*En pensant au professeur Stove, indique à quel point tu es en accord avec chaque énoncé.*

Pas du tout	Très peu	Un peu	Moyennement	Assez	Fortement	Très fortement
en accord	en accord	en accord	en accord	en accord	en accord	en accord
1	2	3	4	5	6	7

**D'après toi...**

1. Pour le professeur Stove, la psychologie semble s'harmoniser bien avec les autres activités de sa vie.	1	2	3	4	5	6	7
2. Le professeur Stove semble éprouver de la difficulté à contrôler son besoin de faire de la psychologie	1	2	3	4	5	6	7
3. La psychologie s'intègre bien dans sa vie du professeur Stove	1	2	3	4	5	6	7
4. Le professeur Stove semble avoir un sentiment qui était presque obsessionnel pour la psychologie	1	2	3	4	5	6	7
5. La psychologie semble contrôler le professeur Stove	1	2	3	4	5	6	7
6. La psychologie est en harmonie avec les autres choses qui font partie du professeur Stove	1	2	3	4	5	6	7
7. La psychologie semble représenter une passion pour le professeur Stove	1	2	3	4	5	6	7
8. Le professeur Stove semble donner l'opportunité aux étudiants de prendre leurs propres décisions	1	2	3	4	5	6	7
9. Le professeur Stove semble offrir des commentaires constructifs qui aident les étudiants à s'améliorer	1	2	3	4	5	6	7
10. Le professeur Stove semble laisser une certaine liberté dans les actions des étudiants	1	2	3	4	5	6	7
11. Le professeur Stove semble encourager les étudiants à poser des questions	1	2	3	4	5	6	7
12. Le professeur Stove semble exprimer de la confiance aux étudiants dans leurs habiletés à bien réussir dans leurs projets	1	2	3	4	5	6	7
13. Le professeur Stove semble écouter l'opinion des étudiants avant de donner la sienne	1	2	3	4	5	6	7
14. Le professeur Stove semble obliger les étudiants à faire à sa manière les projets qu'il sélectionne	1	2	3	4	5	6	7
15. Le professeur Stove semble souligner l'importance de bien réussir à l'école pour poursuivre une carrière en psychologie	1	2	3	4	5	6	7
16. Le professeur Stove semble s'assurer que les étudiants suivent ses exigences à la lettre	1	2	3	4	5	6	7
17. Le professeur Stove contrôle chaque aspect du cours.	1	2	3	4	5	6	7
18. Le professeur Stove semble exiger que chaque étudiant participe activement à ses projets	1	2	3	4	5	6	7
19. Le professeur Stove semble s'attendre à ce que tous les étudiants répondent à ses exigences, sinon il rectifie la situation	1	2	3	4	5	6	7

*En pensant à ce cours de psychologie, indiquez à quel point vous êtes en accord*

du tout d'accord	un peu d'accord	neutre d'accord	un peu d'accord	très d'accord	très d'accord	très d'accord
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**Selon toi, le professeur Stove est-il le genre de professeur qui...**

1. ... donne des choix aux étudiants qui sont basés sur leurs vrais intérêts et valeurs	1	2	3	4	5	6	7
2. ... offre des choix aux étudiants qui reflètent leur vraie personnalité, leur «vrai moi»	1	2	3	4	5	6	7
3. ... laisse la liberté aux étudiants de faire les choses à leur façon	1	2	3	4	5	6	7
4. ... donne des opportunités aux étudiants pour poser leurs questions	1	2	3	4	5	6	7
5. ... donne la chance aux étudiants d'attaquer et de maîtriser des défis difficiles	1	2	3	4	5	6	7
6. ... oblige les étudiants de faire les projets qu'il sélectionne à sa manière	1	2	3	4	5	6	7
7. ... souligne l'importance de bien réussir à l'école pour poursuivre une carrière en psychologie	1	2	3	4	5	6	7
8. ... s'assure que les étudiants suivent ses exigences à la lettre	1	2	3	4	5	6	7
9. ... garde un contrôle total sur les étudiants	1	2	3	4	5	6	7
10. ... exige que chaque étudiant participe activement à ses projets personnels.	1	2	3	4	5	6	7

### ★ Toi et la psychologie ★

*La prochaine section comporte des énoncés sur tes attitudes et expériences envers la psychologie comme si le professeur Stove était ton professeur/superviseur.*

*En visualisant tes études avec le professeur Stove, indique à quel point tu es en accord avec chaque énoncé.*



Pas du tout	Très peu	Un peu	Moyennement	Assez	Fortement	Très fortement
en accord	en accord	en accord	en accord	en accord	en accord	en accord
1	2	3	4	5	6	7
1.	Mes études en psychologie s'harmoniseraient bien avec les autres domaines de ma vie.				1	2 3 4 5 6 7
2.	J'éprouverais de la difficulté à contrôler mon besoin de faire mes études en psychologie.				1	2 3 4 5 6 7
3.	Les choses nouvelles que je découvrirais dans le cadre de mes études en psychologie me permettraient de l'apprécier davantage.				1	2 3 4 5 6 7
4.	J'aurais un sentiment qui serait presque obsessionnel pour mes études en psychologie.				1	2 3 4 5 6 7
5.	Mes études en psychologie reflèteraient les qualités que j'aime de ma personne.				1	2 3 4 5 6 7
6.	Mes études me permettraient de vivre des expériences variées.				1	2 3 4 5 6 7
7.	Mes études en psychologie seraient la seule chose qui me fasse vraiment "tripper".				1	2 3 4 5 6 7
8.	Mes études en psychologie s'intégreraient bien dans ma vie.				1	2 3 4 5 6 7
9.	Si je le pouvais, je ferais seulement mes études en psychologie.				1	2 3 4 5 6 7
10.	Mes études en psychologie seraient en harmonie avec les autres choses qui font partie de moi.				1	2 3 4 5 6 7
11.	Mes études en psychologie seraient tellement excitantes que parfois j'en perdrais le contrôle.				1	2 3 4 5 6 7
12.	J'aurais l'impression que mes études en psychologie me contrôlèrent.				1	2 3 4 5 6 7
13.	Je consacrerai beaucoup de temps à faire mes études en psychologie.				1	2 3 4 5 6 7
14.	J'aimerais mes études en psychologie.				1	2 3 4 5 6 7
15.	Mes études en psychologie seraient importantes pour moi.				1	2 3 4 5 6 7
16.	Mes études en psychologie représenteraient une passion pour moi.				1	2 3 4 5 6 7
17.	Mes études en psychologie feraient partie de qui je suis.				1	2 3 4 5 6 7

***En visualisant tes études avec le professeur Stove, indique à quel point tu es en accord.***

Pas du tout	Un peu	Moyennement	Assez	Fortement
1	2	3	4	5

**D'après toi, avec le professeur Stove, je me sentirais dans mes études en psychologie...**

1. Intéressé-e    1 2 3 4 5      16. Heureux-se    1 2 3 4 5

- |                   |   |   |   |   |   |   |   |   |   |   |   |
|-------------------|---|---|---|---|---|---|---|---|---|---|---|
| 2. Joyeux-se      | 1 | 2 | 3 | 4 | 5 | 17. Détendu-e                           | 1 | 2 | 3 | 4 | 5 |
| 3. Excité-e       | 1 | 2 | 3 | 4 | 5 | 18. Déterminé-e                         | 1 | 2 | 3 | 4 | 5 |
| 4. Perturbé-e     | 1 | 2 | 3 | 4 | 5 | 19. Enthousiaste                        | 1 | 2 | 3 | 4 | 5 |
| 5. Content-e      | 1 | 2 | 3 | 4 | 5 | 20. Fière                               | 1 | 2 | 3 | 4 | 5 |
| 6. Motivé-e       | 1 | 2 | 3 | 4 | 5 | 21. Épuisé-e                            | 1 | 2 | 3 | 4 | 5 |
| 7. Attentif-ve    | 1 | 2 | 3 | 4 | 5 | 22. Satisfait-e                         | 1 | 2 | 3 | 4 | 5 |
| 8. Faché-e        | 1 | 2 | 3 | 4 | 5 | 23. Nerveux-se                          | 1 | 2 | 3 | 4 | 5 |
| 9. Passionné-e    | 1 | 2 | 3 | 4 | 5 | 24. Intelligent-e                       | 1 | 2 | 3 | 4 | 5 |
| 10. Ambitieux-se  | 1 | 2 | 3 | 4 | 5 | 25. Sur un "high"                       | 1 | 2 | 3 | 4 | 5 |
| 11. Anxieux-se    | 1 | 2 | 3 | 4 | 5 | 26. Énergique                           | 1 | 2 | 3 | 4 | 5 |
| 12. Dynamique     | 1 | 2 | 3 | 4 | 5 | 27. Stimulé-e                           | 1 | 2 | 3 | 4 | 5 |
| 13. Trippe fort   | 1 | 2 | 3 | 4 | 5 | 28. Ennuyé-e                            | 1 | 2 | 3 | 4 | 5 |
| 14. Insatisfait-e | 1 | 2 | 3 | 4 | 5 | 29. Incompétent                         | 1 | 2 | 3 | 4 | 5 |
| 15. Malheureux-se | 1 | 2 | 3 | 4 | 5 | 30. Excitée au possible (positivement). | 1 | 2 | 3 | 4 | 5 |

*En visualisant tes études avec le professeur Stove, indiques à quel point tu es en*

Pas tout en accord	du Très peu en accord	Un peu en accord	Moyennement en accord	Assez en accord	Fortement en accord	Très fortement en accord
1	2	3	4	5	6	7

*D'après toi, avec le professeur Stove...*

1. Les études que je ferais correspondraient de près à ce que je voudrais	1	2	3	4	5	6	7
2. Les conditions dans lesquelles j'étudierais seraient excellentes	1	2	3	4	5	6	7
3. Je serais satisfait du type d'étude que je ferais	1	2	3	4	5	6	7
4. J'aurais obtenu les choses importantes que je voulais retirer de mes études	1	2	3	4	5	6	7
5. Si je pouvais changer quoi que ce soit à mes études, je n'y changerais presque rien	1	2	3	4	5	6	7
6. J'aurais l'intention de faire carrière dans le domaine de la psychologie	1	2	3	4	5	6	7



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